

# UL 489 Listed Molded Case Circuit Breakers, Earth Leakage Circuit Breakers

OFF

50A Frame ~ 800A Frame Max Voltage 480V

**(h) (h) (f)** 

E e-Front runners



The new FUJI UL489 Molded Case Circuit Breaker and Earth Leakage Circuit Breaker provides the ultimate in compact design, unprecedented value, and use anywhere in the world.











50A Frame

100A Frame

225A Frame

400A Frame

600/800A Frame



- MORE COMPACT (especially 50A Frame, 100A Frame, 225A Frame) than any breaker on the market, so control panels take up less space than ever before.
- □ PRICING among the lowest in the industry.
- Conformity to all WORLDWIDE STANDARDS, including UL / cUL / IEC / CE Marking / JIS.

Fuji's MCCB, ELCB gives you the features and flexibility you need:

- 1) Suitable for branch circuit protection.
- 2) Rated current of 3-800A, Max 480V.
- 3) Standard type and High type interrupting capacities available in identically sized breakers.
- 4) Shunt trip (F), Under voltage release (R) and other accessories available.
- 5) Field installable in Screw, Flat, or Lug terminal constructions.
- Auxiliary switch, Alarm switch, Shunt trip and Under voltage release can be installed in the field. (SA52/53RCUL, EA102/103CUL, SG53RCUL, EG102/103CUL only)
- 7) Choose Breaker-Mounted (N type) or Panel Door-Mounted (V type) operating handles.

## **Table of Contents**

## Page

| Specifications<br>Part Number            |    |
|--|----|
| Characteristic Curves                    |    |
| Dimensions                               |    |
| Internal Accessories                     |    |
| External Accessories                     | 21 |
| Operating Handles                        |    |
| Wiring, Wire Sizes and Tightening Torque | 24 |
| List Price                               |    |
| Terms & Conditions                       |    |
|  |    |

| Frame size (A)          |                                 |         |                |        | 50                                |               | 100             |               |  |  |
|-------------------------|---------------------------------|---------|----------------|--------|-----------------------------------|---------------|-----------------|---------------|--|--|
| Туре                    |                                 |         |                |        | SA52RCUL                          | SA53RCUL      | EA102CUL        | EA103CUL      |  |  |
| Appearance              |                                 |         |                |        |                                   |               |                 |               |  |  |
| with Screw Term         | inals, 3 pole)                  |         |                |        |                                   |               |                 |               |  |  |
| Rated insulation        | voltage (V) (IEC                | 60947   |                | AC     | 690                               |               | 690             |               |  |  |
| Rated voltage (V)       |                                 |         |                | AC     | 240                               |               | 240             |               |  |  |
| Rated current (A)       |                                 |         |                |        | 3,5,10,15,20,30,40,50             |               | 60,75,100       |               |  |  |
| Poles                   |                                 |         |                |        | 2                                 | 3             | 2               | 3             |  |  |
| Rated frequency         |                                 |         |                |        | 50/60                             |               | 50/60           |               |  |  |
| Rated interrupting      | UL489                           | AC      | 480V           |        | -                                 | -             | -               | -             |  |  |
| capacity                | CSA22-2                         |         | 480Y/277\      | /      | -                                 | -             | -               | -             |  |  |
| sym (kA)                |                                 |         | 240V           |        | 14                                | 14            | 14              | 14            |  |  |
| IEC60947-2<br>[lcu/lcs] |                                 | AC      | 690V           |        | -                                 |               |                 | -             |  |  |
|                         |                                 |         | 600V           |        | 5/3                               |               | 5/3             |               |  |  |
|                         |                                 |         | 500V           |        | 7.5/4                             |               | 7.5/4           |               |  |  |
|                         |                                 |         | 440V           |        | 10/5                              |               | 10/5            |               |  |  |
|                         |                                 |         | 400V           |        | 10/5                              |               | 10/5            |               |  |  |
|                         |                                 |         | 230V           |        | 25/13                             |               | 25/13           |               |  |  |
|                         |                                 | 8370 AC | 550V           |        | 7.5                               |               | 7.5             |               |  |  |
|                         | JIS C 8370                      |         |                | 460V   |                                   | 10            |                 | 10            |  |  |
|                         |                                 |         | 220V           |        | 25                                |               | 25              |               |  |  |
| Dimensions (mm)         |                                 | r-d-    | 1              | a      | 50                                | 75            | 50              | 75            |  |  |
| with short termin       |                                 | a       |                | b      | 120                               |               | 120             |               |  |  |
| cover                   |                                 | Ц       |                | c      | 60                                |               | 60              |               |  |  |
| <u> </u>                |                                 |         |                | d      | 84                                |               | 84              |               |  |  |
| Terminal                | Screw Termina                   | us      |                | NONE   |                                   |               | • (See page 11) |               |  |  |
| construction            | Flat Terminals                  |         |                | L1     | <ul> <li>(See page 11)</li> </ul> |               | • (See page 11) |               |  |  |
| Internal                | Lug Terminals                   | h       | *3             | L<br>W | *6                                |               | *6              |               |  |  |
| nternal                 | Auxiliary switc<br>Alarm switch | 11      | *3             | K      | *6                                |               | *6              |               |  |  |
| accessories             | Shunt trip                      |         | 3              | F      | *6                                |               | *6              |               |  |  |
|                         |                                 | trip    |                | R      | *6                                |               | *6              |               |  |  |
|                         | Undervoltage<br>Accessories wit | -       | ninal block*1  | A      | *6                                |               | *6              |               |  |  |
| External                | Handle locking                  |         | Cap type       | Q1     |                                   |               | *2              |               |  |  |
|                         |                                 | noy     | oup type       |        | BZ6L10C                           |               | BZ6L10C         |               |  |  |
| accessories             | External Opera                  | atina 4 | l<br>Handle    | v      | BZ6V10C                           |               | BZ6V10C         |               |  |  |
|                         |                                 | ung I   |                | N      | BZ6N10C                           |               | BZ6N10C         |               |  |  |
|                         | Field Installabl                | e       | Flat Terminal  |        | BZ-SU20B                          |               | BZ-SU25B        |               |  |  |
|                         | Terminal Kit                    | -       | Lug Terminal   |        | -                                 |               | -               |               |  |  |
|                         | Terminal Cover                  | 'S      | For Screw S    |        | BZ6TS10C2U *5                     | BZ6TS10C3U *5 | BZ6TS10C2U *5   | BZ6TS10C3U *5 |  |  |
|                         |                                 | 5       | Terminals L    |        | BZ6TB10C2U *5                     | BZ6TB10C3U *5 | BZ6TB10C2U *5   | BZ6TB10C3U *5 |  |  |
|                         |                                 |         | For Flat Termi | -      | -                                 | 220.2100000 0 | -               | 220.210000 0  |  |  |
|                         |                                 |         | For Lug Termi  |        | _                                 |               |                 | -             |  |  |
|                         |                                 |         | BZ6B10C *4     |        |                                   | BZ6B10C *4    |                 |               |  |  |
|                         | Insulation Barr                 | ier     |                |        | BZ6B10C "4                        |               | BZ6B10C 4       |               |  |  |

Notes: \*1 All internal accessories will be supplied with terminal block when specify "A" in the accessories part number. When ordered with undervoltage trip for 50A Frame and 100A Frame, the undervoltage 11 All internal accessories will be supplied with terminal block when specify "A" in the accessories part number. When ordered with undervoltage trip for 50A F trip with terminal block will be supplied as a standard. (see page 17, 18)
2 Order the Handle Lock Cover (BZ6L10C) separately if a handle lock key (cap type Q1) is required for 100A Frame or smaller Breakers.
3 Auxiliary switches (WD) and alarm switches (KD) for small currents are available. DPDT auxiliary switches (W2) and DPDT alarm switches (K2) are available.
4 Insulation Barriers are required for only flat terminal type.
5 Terminal covers are supplied with a breaker as a standard. If required "Long Terminal cover", please specify "TB" in the part number. (see page 7)
6 These internal accessories can be installed in the field. (see page 17, 18 for part number)
Available.

| Frame size (A)        |                   |         |                 |         | 100              |                    |                 |                    | 225                           |           |                         |          |                 |  |
|-----------------------|-------------------|---------|-----------------|---------|------------------|--------------------|-----------------|--------------------|-------------------------------|-----------|-------------------------|----------|-----------------|--|
| Туре                  |                   |         |                 |         | SA102BAUL        | SA103BAUL          | SA102RAUL       | SA103RAUL          | SA202BAUL                     | SA203BAUL | SA202RAUL               | SA203RAU |                 |  |
| Appearance            |                   |         |                 |         |                  |                    |                 |                    |                               |           |                         |          |                 |  |
| vith Screw Terminals) |                   |         |                 |         |                  |                    |                 |                    |                               |           |                         |          |                 |  |
| Rated insulation      | voltage (V) (IEC  | 60947   | 7-2)            | AC      | 690              |                    | 690             |                    | 690                           |           | 690                     |          |                 |  |
|                       |                   | AC      | 240             |         | 480Y/277         |                    | 240             |                    | 240                           | 480Y/277  |                         |          |                 |  |
| Rated current (A)     |                   |         |                 |         | 15,20,30,40,50,6 | 60,70,75,80,90,100 | 15,20,30,40,50, | 60,70,75,80,90,100 | 125,150,175,                  | 200,225   | 125,150,175,            | 200,225  |                 |  |
| Poles                 |                   |         |                 |         | 2                | 3                  | 2               | 3                  | 2                             | 3         | 2                       | 3        |                 |  |
| Rated frequency       | (Hz)              |         |                 |         | 50/60            |                    | 50/60           | 1                  | 50/60                         |           | 50/60                   |          |                 |  |
| Rated interrupting    | UL489             |         | 480V            |         | -                | -                  | -               | -                  | -                             | -         | -                       | -        |                 |  |
| apacity               | CSA22-2           | AC      | 480Y/277V       | /       | -                | -                  | 25              | 25                 | -                             | -         | -                       | 25       |                 |  |
| sym (kA)              |                   |         | 240V            |         | 35               | 35                 | 85              | 85                 | 35                            | 35        | 85                      | 85       |                 |  |
| J (.e. y              | IEC60947-2        | AC      | 690V            |         | -                |                    | 5/3             | 00                 | -                             | 00        | 5/3                     | 00       |                 |  |
|                       | [lcu/lcs]         |         | 600V            |         | 10/5             |                    | 25/13           |                    | 15/8                          |           | 25/13                   |          |                 |  |
|                       | [100/100]         |         | 500V            |         | 15/8             |                    |                 |                    | 18/9                          |           | 35/18                   |          |                 |  |
|                       |                   |         | 440V            |         | 25/13            |                    | 50/25           |                    | 25/13                         |           | 50/25                   |          |                 |  |
|                       |                   |         | 400V            |         | 30/15            |                    |                 |                    |                               | 30/15     |                         |          |                 |  |
|                       |                   |         |                 |         | 230V             |                    | 50/25           |                    | 100/50                        |           | 50/25                   |          | 50/25<br>100/50 |  |
|                       |                   |         | 250V            |         | 15/8             |                    | 40/20           |                    | 20/10                         |           | 40/20                   |          |                 |  |
|                       | JIS C 8370        |         | 550V            |         | 15/8             |                    | 35              |                    | 18                            |           | 35                      |          |                 |  |
|                       | 313 0 8370        | AC      | 460V            |         | 25               |                    |                 |                    |                               |           | 50                      |          |                 |  |
|                       |                   |         | 220V            |         | 50               |                    | 50              |                    | 25<br>50                      |           | 100                     |          |                 |  |
|                       |                   | DC      | 220V<br>250V    |         | 15               |                    | 100<br>40       |                    | 20                            |           | 40                      |          |                 |  |
|                       |                   | DC      | 2500            | -       | 90               |                    | 90              |                    | 105                           |           |                         |          |                 |  |
| Dimensions (mm)       | ←a→               | r-d⊣    |                 | a<br>b  |                  |                    |                 |                    |                               |           | 105                     |          |                 |  |
|                       |                   | a       |                 |         | 155              |                    | 155             |                    | 165<br>60                     |           | 165                     |          |                 |  |
|                       |                   | Ц       |                 | c<br>d  | 60               |                    | 60              |                    |                               |           | 60                      |          |                 |  |
|                       | O anno 1 Tannaire | .1-     |                 |         | 82               | 10)                | 82              | 10)                | 84                            | 10)       | 84                      | 10)      |                 |  |
| Ferminal              | Screw Termina     | us      |                 | NONE    |                  |                    | (See page     ( |                    | <ul> <li>(See page</li> </ul> |           | (See page     (See page |          |                 |  |
| construction          | Flat Terminals    |         |                 | L1      | • (See page      |                    | (See page       |                    | (See page                     | ,         | (See page               | ,        |                 |  |
|                       | Lug Terminals     |         | *0              | L       | • (See page      | 12)                | (See page       | 12)                | • (See page                   | 13)       | (See page               | 13)      |                 |  |
| nternal               | Auxiliary switc   | n       | *3              | W       | •                |                    | •               |                    | •                             |           | •                       |          |                 |  |
| accessories           | Alarm switch      |         | *3              | K<br>F  | •                |                    |                 |                    | U                             |           | •                       |          |                 |  |
|                       | Shunt trip        |         |                 |         |                  |                    |                 |                    | U                             |           | •                       |          |                 |  |
|                       | Undervoltage      |         |                 | R       | •                |                    |                 |                    | U                             |           |                         |          |                 |  |
|                       | Accessories wit   |         |                 |         |                  |                    | *0              |                    | *0                            |           | *0                      |          |                 |  |
| External              | Handle locking    | і кеу   | Cap type        | Q1      | *2<br>BZ-L30C    |                    | *2<br>BZ-L30C   |                    | *2<br>BZ-L40C                 |           | *2<br>BZ-L40C           |          |                 |  |
| accessories           | Future 10         |         | Lawall          | V       |                  | 1                  |                 | 1                  |                               | 1         |                         | 1        |                 |  |
|                       | External Opera    | ating I | Handle          |         | BZ-V30C-EUI      | L                  | BZ-V30C-EU      | L                  | BZ-V40C-EU                    | L         | BZ-V40C-EU              | L        |                 |  |
|                       | N                 |         |                 | BZ-N30C |                  | BZ-N30C            |                 | BZ-N40C            |                               | BZ-N40C   |                         |          |                 |  |
|                       | Field Installabl  |         | Flat Terminal I |         | BZ-SU35B         |                    | BZ-SU35B        |                    | BZ-SU50B                      |           | BZ-SU50B                |          |                 |  |
|                       | Terminal Kit      |         | Lug Terminal I  |         | BZ-TA100         |                    | BZ-TA100        |                    | BZ-TA225                      |           | BZ-TA225                |          |                 |  |
|                       | Terminal Cove     | rs      | For Screw S     |         | BZ-TS30B-3       |                    | BZ-TS30B-3      |                    | BZ-TS40B                      |           | BZ-TS40B                |          |                 |  |
|                       |                   |         | Terminals Lo    | -       | BZ-TB30B-3       |                    | BZ-TB30B-3      |                    | BZ-TB40B                      |           | BZ-TB40B                |          |                 |  |
|                       |                   |         | For Flat Termi  | nals    | BZ-TL30B-3       |                    | BZ-TL30B-3      |                    | BZ-TL40B                      |           | BZ-TL40B                |          |                 |  |
|                       |                   |         | For Lug Termi   | nals    | BZ-TB30B-3       |                    | BZ-TB30B-3      |                    | BZ-TB40B                      |           | BZ-TB40B                |          |                 |  |
|                       | Insulation Barr   | rier    |                 |         | BZ-B30B          |                    | BZ-B30B         |                    | BZ-B40B                       |           | BZ-B40B                 |          |                 |  |
| Mass (kg) (Screw      | Terminals)        |         |                 |         | 1.1              | 1.2                | 1.1             | 1.2                | 1.1                           | 1.3       | 1.1                     | 1.3      |                 |  |

Notes: \*1 All internal accessories will be supplied with terminal block when specify "A" at the end of the part number. When ordered with undervoltage trip for 100A Frame and 225A Frame, the undervoltage trip with terminal block will be supplied as a standard.
\*2 Order the Handle Lock Cover (BZ-L□C) separately if a handle lock key (cap type Q1) is required for 225A Frame or smaller Breakers.
\*3 Auxiliary switches (WD) and alarm switches (KD) for small currents are available. DPDT auxiliary switches (W2) and DPDT alarm switches (K2) are available.

• Available.
• Not available.

| Frame Size (A)   |                                      |         |               |       | 400                          | . <u> </u> |                              |          | 600                  | 800                                |  |
|--|--------------------------------------|---------|---------------|-------|------------------------------|------------|------------------------------|----------|----------------------|------------------------------------|--|
| Туре   |                                      |         |               |       | SA402BUL                     | SA403BUL   | SA402RUL                     | SA403RUL | SA603RUL             | SA803RUL                           |  |
| Appearance   |                                      |         |               |       |                              |            |                              |          |                      |                                    |  |
| (with Flat Terminals)<br>Rated insulation voltage (V) (IEC60947-2) |                                      |         |               |       |                              |            |                              |          |                      |                                    |  |
| lated insulation   | voltage (V) (IEC6                    | 60947   | -2)           | AC    | 690                          |            | 690                          |          | 690                  | 690                                |  |
| Rated voltage (V)  | ) (UL489)                            |         |               | AC    | 480                          |            | 480                          |          | 480                  | 480                                |  |
| Rated current (A)  |                                      |         |               |       | 250, 300, 350,               | , 400      | 250, 300, 35                 | 0, 400   | 500, 600             | 700, 800                           |  |
| Poles  |                                      |         |               |       | 2                            | 3          | 2                            | 3        | 3                    | 3                                  |  |
| Rated frequency  | (Hz)                                 |         |               |       | 50/60                        | •          | 50/60                        |          | 50/60                | 50/60                              |  |
| Rated interrupting   | 1                                    | AC      | 2 480V        |       | 25                           | 25         | 50 50                        |          | 50                   | 50                                 |  |
| apacity  | CSA22-2                              |         | 480Y/277\     | /     | 25                           | 25         | 50                           | 50       | 50                   | 50                                 |  |
| ym (kA)  |                                      |         | 240V          |       | 42                           | 42         | 85                           | 85       | 85                   | 85                                 |  |
|  | IEC60947-2 AC 690V<br>[lcu/lcs] 600V |         | 690V          |       | -                            |            | -                            |          | -                    | -                                  |  |
|  |                                      |         | 600V          |       | -                            |            | 30/15                        |          | 30/15                | 30/15                              |  |
|  |                                      |         | 500V          |       | 22/11                        |            | 35/18                        |          | 35/18                | 35/18                              |  |
|  |                                      |         | 440V          |       | 35/18                        |            | 50/25                        |          | 50/25                | 50/25                              |  |
|  |                                      |         | 400V          |       | 35/18                        |            | 50/25                        |          | 50/25                | 50/25                              |  |
|  |                                      |         | 230V          |       | 50/25                        |            | 85/43                        |          | 85/43                | 85/43                              |  |
|  |                                      | DC      | 250V          |       | 20                           |            | 40/20                        |          | 40/20                | 40/20                              |  |
|  | JIS C 8370                           | AC      | 550V          |       | 22                           |            | 35                           |          | 35                   | 35                                 |  |
|  |                                      |         | 460V          |       | 35                           |            | 50                           |          | 50                   | 50                                 |  |
|  |                                      |         | 220V          |       | 50                           |            | 85                           |          | 85                   | 85                                 |  |
|  |                                      | DC      | 250V          |       | 20                           |            | 40                           |          | 40                   | 40                                 |  |
| Dimensions (mm   | ) <sub>+-a-+</sub>                   | ⊨-d-    | *             | а     | 140                          |            | 140                          |          | 210                  | 210                                |  |
|  | , <u> </u>                           | FC      | +             | b     | 257                          |            | 257                          |          | 275                  | 275                                |  |
|  |                                      | 9       |               | с     | 103                          |            | 103                          |          | 103                  | 103                                |  |
|  |                                      | 1       |               | d     | 146                          |            | 146                          |          | 146                  | 146                                |  |
| Terminal   | Flat Terminals                       |         |               | L1    | • (See page                  | 14)        | • (See page                  | 14)      | • (See page 14)      | (See page 14)                      |  |
| construction   | Lug Terminals                        |         |               | L     | • (See page                  | 14)        | • (See page                  | 14)      | • (See page 15)      | (See page 15)                      |  |
| nternal  | Auxiliary switc                      | h       | *2            | W     | •                            |            | •                            |          | •                    | •                                  |  |
| ccessories   | Alarm switch                         |         | *2            | Κ     | •                            |            | •                            |          | •                    |                                    |  |
|  | Shunt trip                           |         |               | F     | •                            |            | •                            |          | •                    | •                                  |  |
|  | Undervoltage                         | trip    |               | R     | •                            |            | •                            |          | •                    | •                                  |  |
|  | Accessories wit                      | h term  | ninal block*1 | Α     | •                            |            |                              |          | •                    | •                                  |  |
| External   | Handle locking                       |         |               | Q1    |                              |            | •                            |          | •                    | •                                  |  |
| ccessories   | External Opera                       | ating I | Handle        | V     | BZ-V60C-EUL                  |            | BZ-V60C-EU                   | L        | BZ-V70C-E            | BZ-V70C-E                          |  |
|  |                                      |         |               | Ν     | BZ-N60C                      |            | BZ-N60C                      |          | BZ-N70C              | BZ-N70C                            |  |
|  | Field Installabl                     | e       | Flat Termina  | l kit | BZ-SU60B                     |            | BZ-SU60B                     |          | BZ-SU70B-600         | BZ-SU70B-800                       |  |
|  | Terminal Kit                         |         | Lug Termina   | l kit | BZ-TA350 (up<br>BZ-TA400 (40 |            | BZ-TA350 (u)<br>BZ-TA400 (4) |          | BZ-TA600             | BZ-TA700 (700A)<br>BZ-TA800 (800A) |  |
|  | Terminal Cover                       | rs      | For Flat Term | inals | BZ-TB60B                     |            | BZ-TB60B                     |          | BZ-TB70B             | BZ-TB70B                           |  |
|  |                                      |         | For Lug Term  |       | BZ-TB60B                     |            | BZ-TB60B                     |          | Comes with a breaker | Comes with a breaker               |  |
|  | Insulation Barr                      | ier     |               |       | B-43A                        |            | B2-1860B<br>B-43A            |          | B-43A                | B-43A                              |  |
| Mass (kg) (Flat Terminals)   |                                      |         |               | 4.5   | 5                            | 4.5        | 5                            | 9        | 10                   |                                    |  |

Notes: \*1 All internal accessories will be supplied with terminal block when specify "A" at the end of the part number. \*2 Auxiliary switches (WD) and alarm switches (KD) are available for small currents. DPDT auxiliary switches (W2) and DPDT alarm switches (K2) are available. •: Available. -: Not available.

| Frame size (A)              |                  |         |                 |      | 50                    | 100         |                |                    | 225                 |
|-----------------------------|------------------|---------|-----------------|------|-----------------------|-------------|----------------|--------------------|---------------------|
| Туре                        |                  |         |                 |      | SG53RCUL              | EG102CUL    | EG103CUL       | SG103BAUL          | SG203BAUL           |
| Appearance                  |                  |         |                 |      |                       |             |                |                    |                     |
| with Screw Term             | inals)           |         |                 |      |                       |             |                |                    |                     |
| Rated insulation            | voltage (V) (IEC | 60947   | 7-2)            | AC   | 440                   | 240         | 440            | 440                | 440                 |
| Rated voltage (V)           | ) (UL489)        |         |                 | AC   | 240                   | 240         |                | 240                | 240                 |
| Rated current (A)           |                  |         |                 |      | 3,5,10,15,20,30,40,50 | 60,75,100   |                | 32,40,50,60,75,100 | 125,150,175,200,225 |
| Rated Sensitive (           |                  |         |                 |      | 30,100/200/500        | 30,100/200  | 30,100/200/500 | 30,100/200/500     | 30,100/200/500      |
| Poles                       |                  |         |                 |      | 3                     | 2           | 3              | 3                  | 3                   |
| Rated frequency             | (Hz)             |         |                 |      | 50/60                 | 50/60       |                | 50/60              | 50/60               |
| Rated interrupting          | UL489            |         | 480V            |      | -                     | -           | -              | -                  | -                   |
| capacity                    | CSA22-2          | AC      | 480Y/277\       | /    | -                     | -           | -              | -                  | -                   |
| sym (kA)                    |                  | 240V    |                 |      | 14                    | 14          | 14             | 35                 | 35                  |
|                             | IEC60947-2       | AC      | 440V            |      | 10/5                  | -           | 10/5           | 25/7               | 25/7                |
|                             | [lcu/lcs]        |         | 230V            |      | 25/13                 | 10/5        | 25/13          | 50/13              | 50/13               |
|                             |                  |         | 100V            |      | 25/13                 | 10/5        | 25/13          | 50/13              | 50/13               |
|                             | JIS C 8371       | AC      | 415V            |      | 10                    | -           | 10             | 25                 | 25                  |
|                             |                  |         | 200V            |      | 25                    | 10          | 25             | 50                 | 50                  |
|                             |                  |         | 100V            |      | 25                    | 10          | 25             | 50                 | 50                  |
| Dimensions (mm)             | ) <u>⊬</u> a→    | ⊢d–     | H               | а    | 75                    | 75          | 1              | 90                 | 105                 |
|                             |                  | P PC    | -               | b    | 120 *6                | 120 *6      |                | 155                | 165                 |
|                             |                  | P       |                 | с    | 60                    | 60          |                | 60                 | 60                  |
|                             |                  | 1       |                 | d    | 84                    | 84          |                | 82                 | 84                  |
| Ferminal                    | Screw Termina    | als     |                 | NONE | (See page 11)         | • (See page | 11)            | • (See page 12)    | • (See page 13)     |
| construction                | Flat Terminals   |         |                 | L1   | • (See page 11)       | (See page   |                | -                  | -                   |
|                             | Lug Terminals    |         |                 | L    | -                     | -           | -              | -                  | -                   |
| nternal                     | Auxiliary swite  |         | *3              | W    | *7                    | *7          |                | •                  | •                   |
| accessories                 | Alarm switch     |         | *3              | к    | *7                    | *7          |                | •                  | •                   |
|                             | Shunt trip       |         |                 | F    | *7                    | *7          |                | -                  | -                   |
|                             | Undervoltage     | trip    |                 | R    | *7                    | *7          |                | -                  | -                   |
|                             | Accessories wi   | th tern | ninal block*1   | А    | *7                    | *7          |                | •                  | •                   |
| External                    | Handle locking   | g key   | Cap type        | Q1   | *2                    | *2          |                | *2                 | *2                  |
| accessories                 |                  | -       |                 |      | BZ6L10C               | BZ6L10C     |                | BZ-L30C            | BZ-L40C             |
|                             | External Oper    | ating   | Handle          | V    | BZ6V10C               | BZ6V10C     |                | BZ-V30C-EUL        | BZ-V40C-EUL         |
|                             |                  |         |                 | Ν    | BZ6N10C               | BZ6N10C     |                | BZ-N30C            | BZ-N40C             |
|                             | Field Installab  | le      | Flat Terminal I |      | BZ-SU20B              | BZ-SU25B    |                | -                  | -                   |
|                             | Terminal Kit     |         | Lug Terminal I  | Kit  | -                     | -           |                | -                  | -                   |
|                             | Terminal Cove    | rs      | For Screw S     | hort | BZ6TS10C3U *5         | BZ6TS10C3L  | J *5           | BZ-TS30B-3         | BZ-TS40B            |
|                             |                  |         | Terminals L     | ong  | BZ6TB10C3U *5         | BZ6TB10C3L  | J *5           | BZ-TB30B-3         | BZ-TB40B            |
|                             |                  |         | For Flat Termi  | nals | -                     | -           |                | -                  | -                   |
|                             |                  |         | For Lug Termi   | nals | -                     | -           |                | -                  | -                   |
|                             | Insulation Bar   | rier    |                 |      | BZ6B10C *4            | BZ6B10C *4  | 1              | BZ-B30B            | BZ-B40B             |
| Mass (kg) (Screw Terminals) |                  |         |                 |      | 0.6                   | 0.6         | 0.6            | 1.5                | 1.5                 |

Notes: \*1 All internal accessories will be supplied with terminal block when specify "A" in the part number. When ordered shunt trip or undervoltage trip for SG53RCUL, EG102/103CUL, the shunt trip or the undervoltage trip with terminal block will be supplied as a standard. (see page 17, 18)
\*2 Order the Handle Lock Cover (B26L10C or BZ-L□C) separately if a handle lock key (cap type Q1) is required for 225A Frame or smaller Breakers.
\*3 Auxiliary switches (WD) and alarm switches (KD) for small currents are available. DPDT auxiliary switches (W2) and DPDT alarm switches (K2) are available.
\*4 Insulation Barriers are required for only flat terminal type. (SG53RCUL, EG102/103CUL)
\*5 Terminal covers are supplied with a breaker as a standard. If required "Long Terminal cover", please specify "TB" in the part number. (see page 8)

\*6 with short terminal cover \*7 These internal accessories can be installed in the field. (see page 17, 18 for part number)

•: Available. -: Not available.

## Molded Case Circuit Breakers - EA-UL, SA-UL Series

## Part Number

|                      |                           |                  |            |    | Interna | al acce | essory   |   |           |          |                                    |       |       |          |                    |        |         |            |        |
|----------------------|---------------------------|------------------|------------|----|---------|---------|----------|---|-----------|----------|------------------------------------|-------|-------|----------|--------------------|--------|---------|------------|--------|
|                      | SA103BAUL                 | / 100            | <u>L1</u>  | Q1 | w       | ĸ       | <u> </u> | 8 | <u>TB</u> | <u>A</u> |                                    |       |       |          |                    |        |         |            |        |
| Product categ        | ory                       |                  |            |    |         |         |          |   |           |          | Accessories w                      | vith  | teri  | mina     | block (SA1(        | )0A F  | ran     | ne or a    | reate  |
| Rated current        | (A)                       |                  |            |    |         |         |          |   |           |          | Note *4: if required               | Term  |       |          | · ·                |        |         | 0          | - cato |
| Terminal struct      | ure                       |                  |            |    |         |         |          |   |           |          | part numbe<br>Note *6: To order un |       | oltag | e trip f | or 100A and 225/   | Frame  | ə, sp   | ecify "A". |        |
| Name                 | Code                      |                  |            |    |         |         |          |   |           |          |                                    |       |       |          |                    |        |         |            |        |
| Screw terminal       | None *1                   |                  |            |    |         |         |          |   |           |          | with terminal c                    | ove   | er (S | SA52     | /53RCUL, E/        | A102   | /10     | 3CUL o     | วทly)  |
| Flat terminal        | L1                        |                  |            |    |         |         |          |   |           |          | Note *5: For other F               | ram   | e siz | e, orde  | er terminal covers | sepa   | rately  | . (see pa  | je 21) |
| Lug terminal         | L *2                      |                  |            |    |         |         |          |   |           |          | Name                               |       | Cod   | <u> </u> |                    |        |         |            |        |
| Note *1: Screw terr  | ninal is not available on | 400A Frame of    | or greater | :  |         |         |          |   |           |          | Short                              | -     | None  | -        |                    |        |         |            |        |
| Note *2: Lug termin  | al is not available on SA | 452/53RCUL,      |            |    |         |         |          |   |           |          | Long                               | -     | тв    | -        |                    |        |         |            |        |
| EA102/103            | 3CUL.                     |                  |            |    |         |         |          |   |           |          |                                    |       |       |          |                    |        |         |            |        |
| Handle locking       | y key ———                 |                  |            |    |         |         |          |   |           |          |                                    |       |       |          |                    |        |         |            |        |
| Name                 |                           | Code             |            |    |         |         |          |   |           |          | Internal access                    |       |       |          |                    |        | \<br>ب- | -          |        |
| Handle locking key   | Cap type                  | Q1 *3            |            |    |         |         |          |   |           |          | (except SA52                       |       |       |          |                    | CUL    | _) *    | <i>(</i>   |        |
| Note *3: Cap type (  | Q1) is applicable to 400  | -800A Frame.     |            |    |         |         |          |   |           |          | (Shunt trip (F)/Unde               | rvolt | age   | trip (R  | ))                 |        |         |            |        |
| For 225A F           | rame or smaller, order    | the Handle Lo    | ck         |    |         |         |          |   |           |          | SA100A, 225A Fra                   | me    |       | 1        | 400A, 600A, 80     | 0A Fra | ime     |            |        |
| Cover (BZ6           | 6L10C or BZ-L⊡C) sepa     | arately. (see pa | age 21)    |    |         |         |          |   |           |          | Operating voltage                  | F     | +     |          | Operating volta    | ge F   | R       | Code       |        |
| A                    | L (averat CAEO)           |                  |            |    |         |         |          |   |           |          | 24V AC                             | 0     | 0     |          | 24V AC             | -      | · C     | 8          |        |
|                      | h (except SA52/           | 53RCUL,          |            |    |         |         |          |   |           |          | 48V AC                             | 0     | 0     | 7        | 24 to 48V AC       | C      | -       | <b>-</b>   |        |
| EA102/103C           | UL) "7                    |                  |            |    |         |         |          |   |           |          | 100 to 110V AC                     | -     | 0     | к        | 48V AC             | -      | • C     |            |        |
| Name                 |                           | Code             |            |    |         |         |          |   |           |          | 100 to 125V AC                     | 0     | -     | т        | 100 to 110V AC     |        |         |            |        |
| Standard (SPDT)      | Lead wire *4              | w                |            |    |         |         |          |   |           |          | 200 to 220V AC                     | -     | -     | Y        | 100 to 240V AC     |        | -       |            |        |
| Double (DPDT)        |                           | W2               |            |    |         |         |          |   |           |          | 200 to 240V AC                     | 0     | -     | U        | 380 to 550V AC     |        | -       | F          |        |
| For small current (S |                           | WD               |            |    |         |         |          |   |           |          | 240V AC                            | -     | 0     |          | 200 to 240V AC     |        |         | -          |        |
| For small current (D | /                         | WD2              |            |    |         |         |          |   |           |          | 24V DC                             | 0     | 0     | м        | 380 to 440V AC     |        | · C     | <u> </u>   |        |
|                      | Terminal block style, sp  | ecify "A" at th  | ne end     |    |         |         |          |   |           |          | 48V DC                             | 0     |       | N        | 440 to 480V AC     |        |         | <u> </u>   |        |
| of the part          | number                    |                  |            |    |         |         |          |   |           |          | 100 to 110V DC                     | 0     | 0     |          | 24V DC             | -      |         |            |        |
| Alarm switch (       | except SA52/53            | RCUL, -          |            |    |         |         |          |   |           |          | 200 to 220V DC                     | 0     | 0     | z        | 24 to 48V DC       | C      | -       | R          |        |
| EA102/103Cl          | JL) *7                    |                  |            |    |         |         |          |   |           |          | ○ : Available                      |       |       |          | 48V DC             | -      |         | <u> </u>   |        |
| Name                 |                           | Code             |            |    |         |         |          |   |           |          | <ul> <li>Not available</li> </ul>  |       |       |          | 100 to 110V DO     |        | C       |            |        |
| Standard (SPDT)      | Lead wire *4              | к                |            |    |         |         |          |   |           |          |                                    |       |       |          | 100 to 220V DO     | -      | -       |            |        |
| Double (DPDT)        |                           | K2               |            |    |         |         |          |   |           |          |                                    |       |       |          | 200 to 220V DO     | ;  -   |         | Z          |        |
| For small current (S | PDT)                      | KD               |            |    |         |         |          |   |           |          |                                    |       |       |          | <b></b>            |        |         |            |        |
| For small current (D | ,                         | KD2              |            |    |         |         |          |   |           |          | Trip (except S                     | A5    | 2/5   | 3RC      | UL, EA102          | /103   | SCL     | JL) *7     |        |
|                      | Terminal block style, sp  |                  | ne end     |    |         |         |          |   |           |          | Name                               |       |       |          | 0                  | ode    |         | _          |        |
| of the part          |                           | oony A atu       | io onu     |    |         |         |          |   |           |          | Shunt trip                         |       |       | Lead     | wire *4 F          |        |         |            |        |
| or the part          |                           |                  |            |    |         |         |          |   |           |          | The share of the second states     |       |       |          | -                  |        |         | _          |        |

R Undervoltage trip Note \*4: if required Terminal block style, specify "A" at the end of the part number

Note \*7: Field - installable accessories / sold separately (SA52/53RCUL, EA102/103CUL only)

Auxiliary switch, alarm switch, shunt trip, undervoltage trip can be installed in the field. (see page 17, 18 for part number)

## Earth Leakage Circuit Breakers - EG-UL, SG-UL Series

## Part Number

|                                   |          |                   |             |               |             |             |           | Internal a | ccesso   | ory       |             |
|-----------------------------------|----------|-------------------|-------------|---------------|-------------|-------------|-----------|------------|----------|-----------|-------------|
| _                                 | SG1      | <u>03BAL</u>      | JL .        | / _1          | <u>00</u> - | <u>30MA</u> | <u>L1</u> | w          | <u>K</u> | <u>TB</u> | <u>A</u>    |
| Product categor                   | у —      |                   |             |               |             |             |           |            |          |           | Access      |
| Rated current (A                  | .)       |                   |             |               |             |             |           |            |          |           | SG203       |
| Rated sensitive                   | curre    | nt                |             |               |             |             |           |            |          |           | Note *3: if |
| Sensitive current spec            |          | 2pole             | 3pol        | e             | Code        | _           |           |            |          |           | р           |
| 30mA                              |          | . 0               |             | С             | 30MA        | _           |           |            |          |           | — with ter  |
| 100/200mA changeat                | ole      | 0                 | -           | _             | со          | _           |           |            |          |           | Note *5: F  |
| 100/200/500mA chan                | geable   | -                 | (           | С             | со          | _           |           |            |          |           |             |
| ○ : Available                     | -        |                   |             |               |             | -           |           |            |          |           | Name        |
| <ul> <li>Not available</li> </ul> |          |                   |             |               |             |             |           |            |          |           | Short       |
|                                   |          |                   |             |               |             |             |           |            |          |           | Long        |
| Terminal structu                  | re —     |                   | -           |               |             |             |           |            |          |           |             |
| Name                              | Code     |                   | -           |               |             |             |           |            |          |           |             |
| Screw terminal                    | None     |                   | -           |               |             |             |           |            |          |           |             |
| Flat terminal                     | L1       | *2                | -           |               |             |             |           |            |          |           |             |
| Lug terminal                      | L *1     | *2                | -           |               |             |             |           |            |          |           |             |
| Note *1: Lug terminal             | is not a | available or      | n SG53      | RCUL,         | , EG102/1   | 03CUL.      |           |            |          |           |             |
| Note *2: Lug terminal             |          | at terminal       | are not     | availa        | ble on SC   | a103BAUL,   |           |            |          |           |             |
| SG203BAUL                         |          |                   |             |               |             |             |           |            |          |           |             |
| Auxiliary switch                  | (exce    | ent SG5           | 53RC        | ш             |             |             |           |            |          |           |             |
| EG102/103CU                       | •        | opt out           |             | ·• <b>_</b> , |             |             |           |            |          |           |             |
| Name                              | _, .     |                   | (           | Code          |             | _           |           |            |          |           |             |
| Standard (SPDT)                   | Le       | ad wire           | *3 <b>I</b> | w             |             | _           |           |            |          |           |             |
| Double (DPDT)                     |          |                   | 1           | W2            |             |             |           |            |          |           |             |
| For small current (SPI            | DT)      |                   | ١           | WD            |             | _           |           |            |          |           |             |
| For small current (DP             | DT)      |                   | ١           | WD2           |             | _           |           |            |          |           |             |
| Note *3: if required Te           | erminal  | block style       | , specif    | fy "A"        | at the end  | ł           |           |            |          |           |             |
| of the part n                     | umber    |                   |             |               |             |             |           |            |          |           |             |
| Al                                |          | 00505             |             |               |             |             |           |            |          |           |             |
| Alarm switch (e)                  |          | 56531             | IUUL        | -,            |             |             |           |            |          |           |             |
| EG102/103CU                       | L) 4     |                   |             | 01 -          |             | _           |           |            |          |           |             |
| Name                              |          | a al contra de la |             | Code          |             | _           |           |            |          |           |             |
| Standard (SPDT)                   | Le       | ad wire           | - H         | K             |             | _           |           |            |          |           |             |
| Double (DPDT)                     |          |                   | - P         | K2            |             | _           |           |            |          |           |             |

 For small current (DPDT)
 KD2

 Note \*3: if required Terminal block style, specify "A" at the end

of the part number

For small current (SPDT)

Note \*4: Field - installable accessories / sold separately (SG53RCUL, EG102/103CUL only)

KD

Auxiliary switch, alarm switch, shunt trip, undervoltage trip can be installed in the field. (see page 17, 18 for part number)

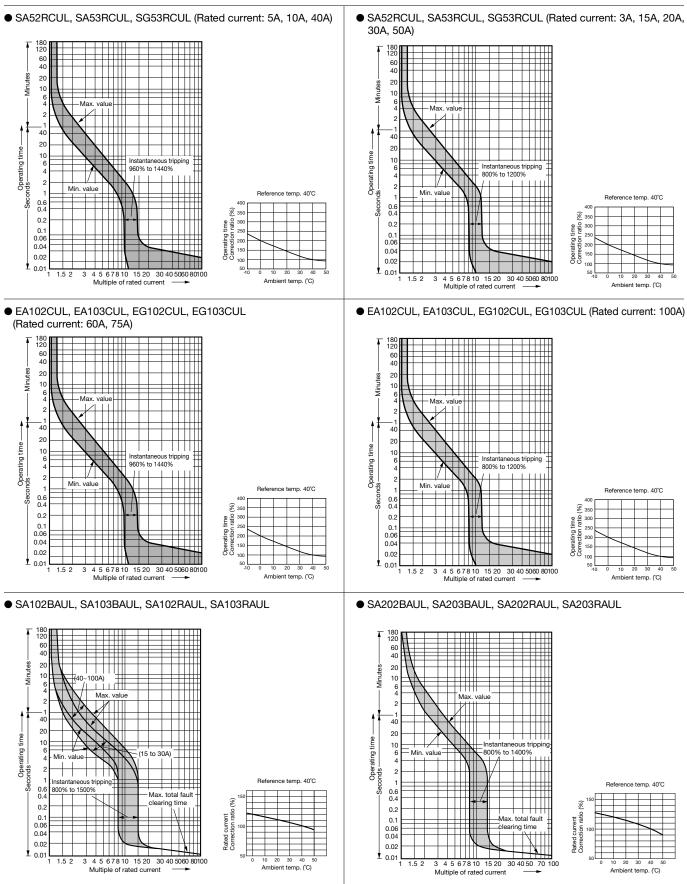
ote \*3: if required Terminal block style, specify "A" at the end of the part number

#### with terminal cover (SG53RCUL, EG102/103CUL only)

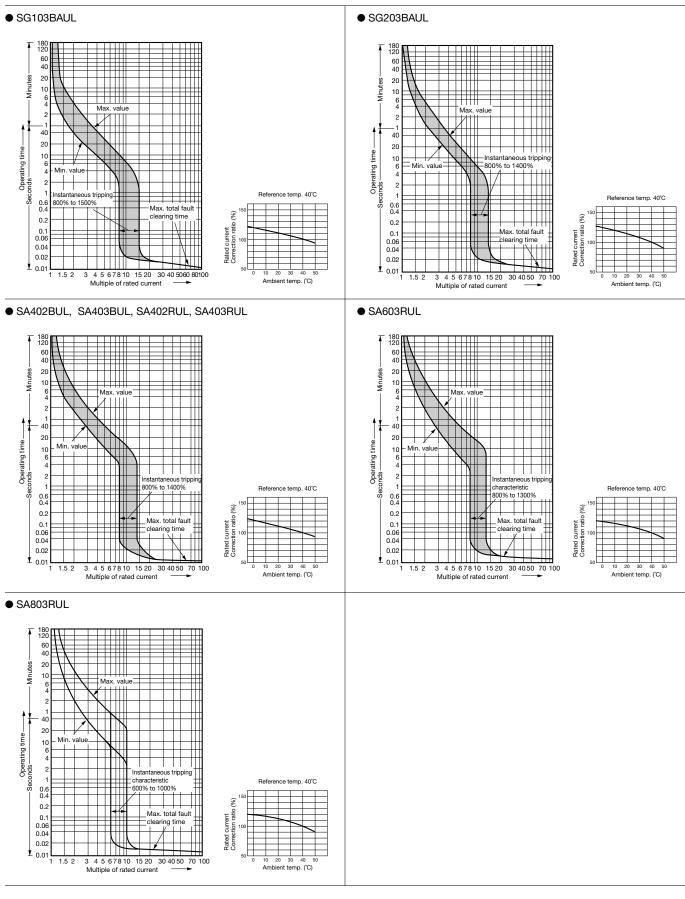
Note \*5: For other Frame size, order terminal covers separately. (see page 21)

| Name  | Code |
|-------|------|
| Short | None |
| Long  | тв   |

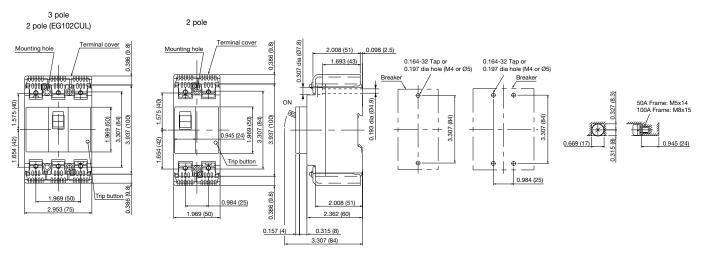
## Characteristic Curves



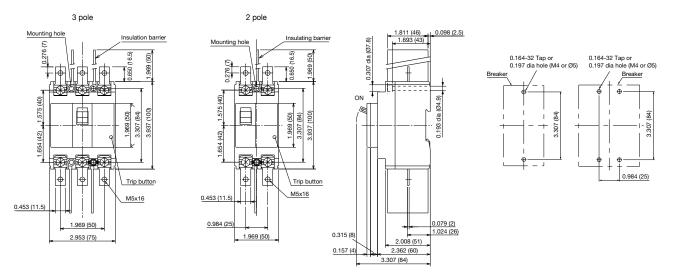
## Characteristic Curves



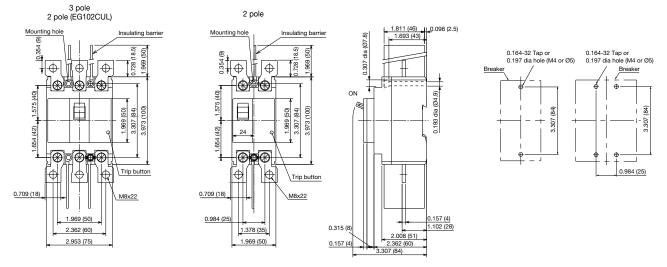
#### ● SA52RCUL/□, SA53RCUL/□, SG53RCUL/□, EA102CUL/□, EA103CUL/□, EG102CUL/□, EG103CUL/□



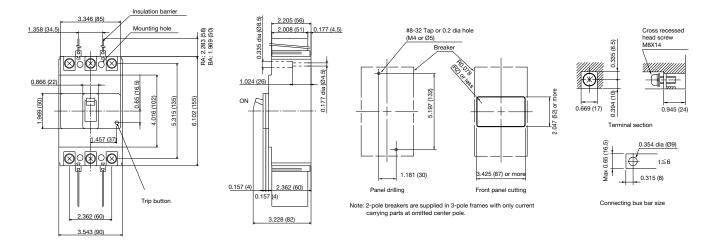
● SA52RCUL/□L1, SA53RCUL/□L1, SG53RCUL/□L1



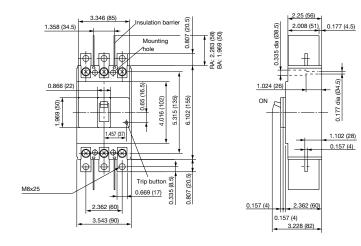
● EA102CUL/□L1, EA103CUL/□L1, EG102CUL/□L1, EG103CUL/□L1

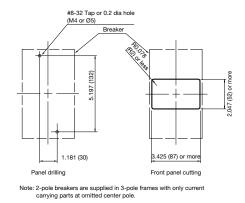


#### ● SA102BAUL/□, SA103BAUL/□, SA102RAUL/□, SA103RAUL/□, SG103BAUL/□

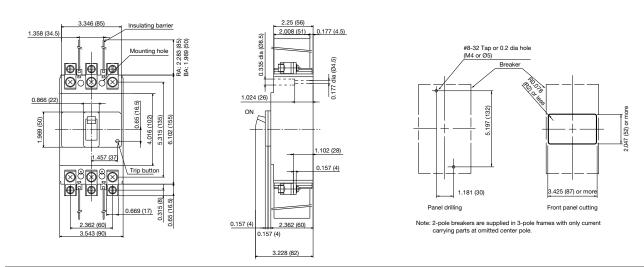


● SA102BAUL/□L1, SA103BAUL/□L1, SA102RAUL/□L1, SA103RAUL/□L1

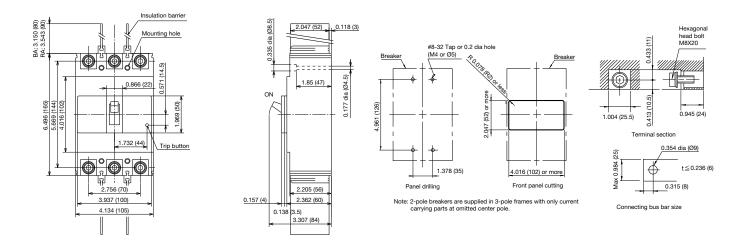




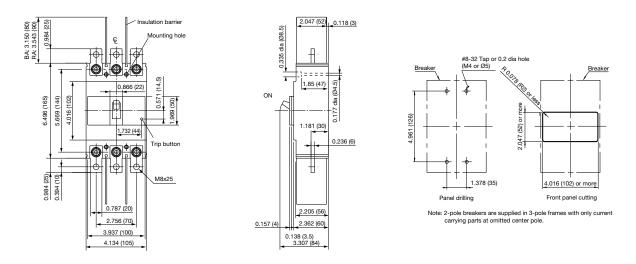
#### ● SA102BAUL/□L, SA103BAUL/□L, SA102RAUL/□L, SA103RAUL/□L



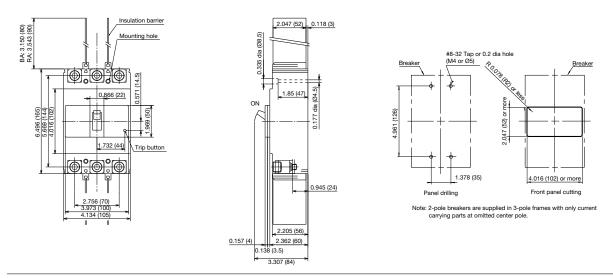
● SA202BAUL/□, SA203BAUL/□, SA202RAUL/□, SA203RAUL/□, SG203BAUL/□



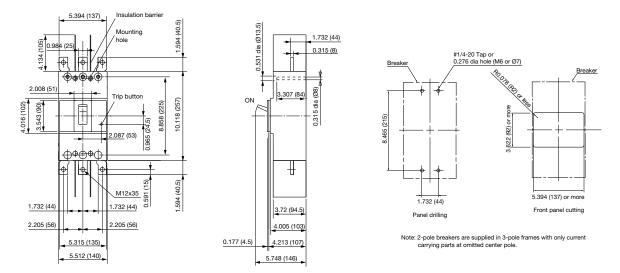
● SA202BAUL/□L1, SA203BAUL/□L1, SA202RAUL/□L1, SA203RAUL/□L1



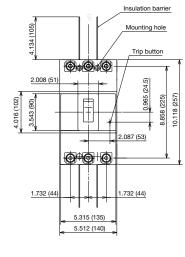
#### ● SA202BAUL/□L, SA203BAUL/□L, SA202RAUL/□L, SA203RAUL/□L

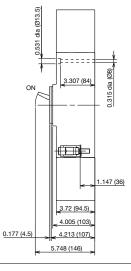


#### ● SA402BUL/□L1, SA403BUL/□L1, SA402RUL/□L1, SA403RUL/□L1

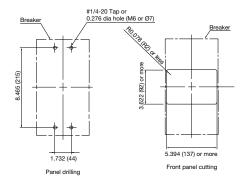


● SA402BUL/□L, SA403BUL/□L, SA402RUL/□L, SA403RUL/□L

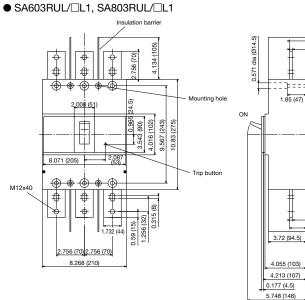


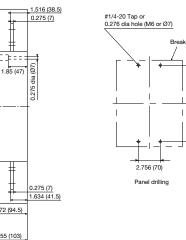


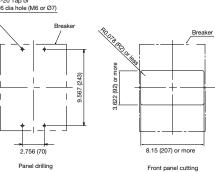
⋕



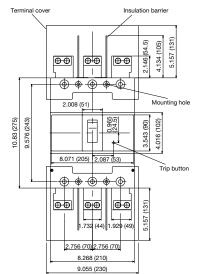
Note: 2-pole breakers are supplied in 3-pole frames with only current carrying parts at omitted center pole.

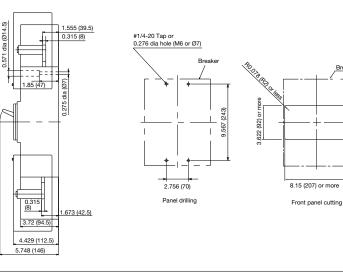




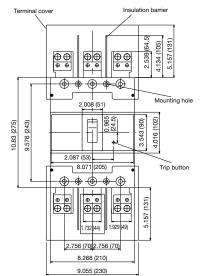


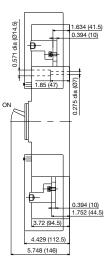
#### ● SA603RUL/□L



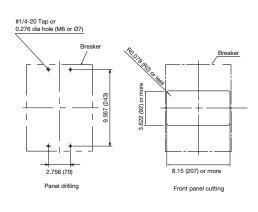


#### • SA803RUL/700L



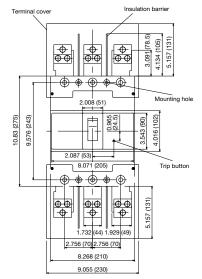


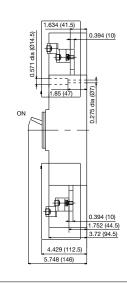
ON

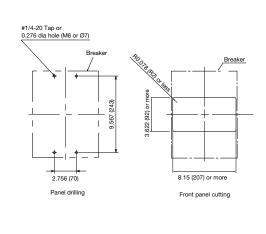


Breaker

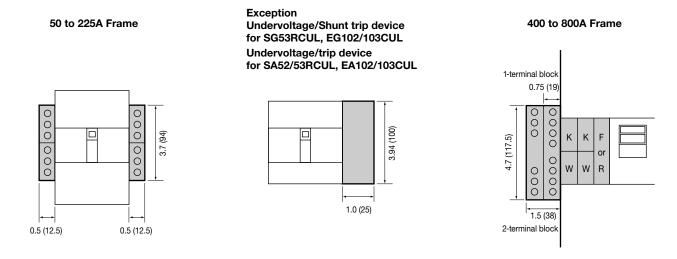
#### SA803RUL/800L



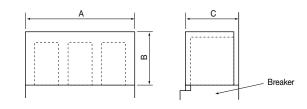




## Dimensions of terminal blocks for internal accessories: inch (mm)



## Dimensions of terminal covers: inch (mm)



| For Screw Term        | ninals        |                |                 | For Lug Termin       | als           |                |                | For Flat Termir | nals          |               |                | Applicable Breakers                                     |  |
|-----------------------|---------------|----------------|-----------------|----------------------|---------------|----------------|----------------|-----------------|---------------|---------------|----------------|---|--|
| Туре                  | А             | В              | С               | Туре                 | A             | В              | С              | Туре            | A             | В             | С              |   |  |
| BZ6TS10C2U<br>(Short) | 1.969<br>(50) | 0.386<br>(9.8) | 2.106<br>(53.5) |                      | _             |                |                |                 | _             |               | _              |   |  |
| BZ6TB10C2U<br>(Long)  | 1.969<br>(50) | 1.575<br>(40)  | 2.106<br>(53.5) |                      |               |                |                |                 |               |               |                | SA52RCUL, EA102CUL                                      |  |
| BZ6TS10C3U<br>(Short) | 2.953<br>(75) | 0.386<br>(9.8) | 2.106<br>(53.5) |                      | _             |                |                |                 | _             |               |                | SA53RCUL, EA103CUL                                      |  |
| BZ6TB10C3U<br>(Long)  | 2.953<br>(75) | 1.575<br>(40)  | 2.106<br>(53.5) |                      |               |                |                |                 |               |               |                | SG53RCUL, EG102CUL, EG103CUL                            |  |
| BZ-TS30B-3            | 3.55<br>(90)  | 0.4<br>(10)    | 2.3<br>(58.5)   | BZ-TB30B-3           | 3.55<br>(90)  | 1.58<br>(40)   | 2.3<br>(58.5)  | BZ-TL30B-3      | 3.54<br>(90)  | 2.36<br>(60)  | 2.3<br>(58.5)  | SA102BAUL, SA103BAUL, SG103BAUL<br>SA102RAUL, SA103RAUL |  |
| BZ-TS40B              | 4.13<br>(105) | 0.4<br>(10)    | 2.3<br>(58.5)   | BZ-TB40B             | 4.13<br>(105) | 1.97<br>(50)   | 2.3<br>(58.5)  | BZ-TL40B        | 4.13<br>(105) | 2.95<br>(75)  | 2.3<br>(58.5)  | SA202BAUL, SA203BAUL, SG203BAUL<br>SA202RAUL, SA203RAUL |  |
| -                     | -             | -              | _               | BZ-TB60B             | 7.48<br>(190) | 4.57<br>(116)  | 3.84<br>(97.5) | BZ-TB60B        | 7.48<br>(190) | 4.57<br>(116) | 3.84<br>(97.5) | SA402BUL, SA403BUL<br>SA402RUL, SA403RUL                |  |
| _                     | -             | -              | -               | comes with a breaker | 9.06<br>(230) | 5.157<br>(131) | 3.84<br>(97.5) | BZ-TB70B        | 9.06<br>(230) | 5.32<br>(135) | 3.84<br>(97.5) | SA603RUL<br>SA803RUL                                    |  |

## Internal Accessories

### • Shunt Trip

(1) Factory installed Shunt Trip for SA100 to 800A frame

|      | Breaker type      | SA102RAUL<br>SA202BAUL | ., SA103BAUL<br>., SA103RAUL<br>., SA203BAUL<br>., SA203RAUL | SA402RUL,  | SA403BUL<br>SA403RUL<br>SA803RUL |                      | Terminal No. and Internal circuit |
|------|-------------------|------------------------|--|------------|----------------------------------|----------------------|-----------------------------------|
| Code | Operating voltage | Input (VA)             | Internal circuit   | Input (VA) | Internal circuit                 | Time rating (ms)     | Continuous with burnout           |
| F8   | 24VAC             | 30                     | Continuous   | -          | Internal circuit                 | 100A frame: 7 to 16  | Prevention contact                |
| FV   | 24 to 48VAC       | -                      | with burnout   | 2.0        | Continuous                       | 225A frame: 13 to 21 | S1 - 00-0- S2                     |
| F7   | 48VAC             | 30                     | prevention   | -          |                                  | 400-800A frame:      |                                   |
| FT   | 100 to 125VAC     | 30                     | contact  | -          |                                  | 80 to 100            |                                   |
| FW   | 100 to 240VAC     | -                      |  | 3.0        |                                  |                      |                                   |
| FU   | 200 to 240VAC     | 30                     |  | -          |                                  |                      | Continuous                        |
| FF   | 380-550VAC        | -                      |  | 4.0        |                                  |                      | S1                                |
| FM   | 24VDC             | 35                     |  | -          |                                  |                      |                                   |
| FR   | 24 to 48VDC       | -                      |  | 2.0        |                                  |                      |                                   |
| FN   | 48VDC             | 35                     |  | -          |                                  |                      |                                   |
| FL   | 100 to 110VDC     | 35                     |  | -          |                                  |                      |                                   |
| FX   | 100 to 220VDC     | -                      |  | 3.0        |                                  |                      |                                   |
| FZ   | 200 to 220VDC     | 35                     |  | -          |                                  |                      |                                   |

(2) Field installable Shunt Trip for SA52/53RCUL, EA102/103CUL, SG53RCUL, EG102/103CUL

| Applicable Breaker | Operating voltage  | Input   |              |                     | Internal circuit | Time rating (ms) | Terminal No. and Internal circuit |
|--------------------|--------------------|---------|--------------|---------------------|------------------|------------------|-----------------------------------|
|                    |                    | (VA, W) | Lead wire    | with Terminal block |                  |                  |                                   |
| SA52RCUL           | 24VAC, 24VDC       | 150     | BZ6FR10CU    | BZ6FR10CAU          | Continuous       | 7 to 13          | Continuous with burnout           |
| SA53RCUL           | 100 to 120VAC,     | 150     | BZ6FA10CU *2 | BZ6FA10CAU *2       | with burnout     |                  | Prevention contact                |
| EA102CUL           | 100 to 110VDC      |         |              |                     | prevention       |                  | S1 - 00 - S2                      |
| EA103CUL           | 200 to 240VAC      | 150     | BZ6FK10CU    | BZ6FK10CAU          | contact          |                  |                                   |
|                    | 380 to 450VAC      | 200     | BZ6FP10CU    | BZ6FP10CAU          |                  |                  |                                   |
| SG53RCUL           | 100VAC 50Hz,       | 16      | -            | BZ6F210CAU          | Continuous       | 7 to 13          |                                   |
| EG102CUL           | 100 to 110VAC 60Hz |         |              |                     |                  |                  | Continuous                        |
| EG103CUL           | 110VAC 50Hz,       | 22      | -            | BZ6F110CAU *2       |                  |                  | S1 -0000 - S2                     |
|                    | 110 to 127VAC 60Hz |         |              |                     |                  |                  |                                   |
|                    | 200VAC 50Hz,       | 16      | -            | BZ6F710CAU          |                  |                  |                                   |
|                    | 200 to 220VAC 60Hz |         |              |                     |                  |                  |                                   |
|                    | 220VAC 50Hz,       | 22      | -            | BZ6F410CAU *2       |                  |                  |                                   |
|                    | 220 to 240VAC 60Hz |         |              |                     |                  |                  |                                   |
|                    | 230VAC 50Hz,       | 22      | -            | BZ6F510CAU *2       |                  |                  |                                   |
|                    | 230 to 240VAC 60Hz |         |              |                     |                  |                  |                                   |
|                    | 240VAC 50Hz        | 22      | -            | BZ6FB10CAU *2       |                  |                  |                                   |
|                    | 380VAC 50Hz,       | 22      | -            | BZ6F010CAU *2       |                  |                  |                                   |
|                    | 380 to 415VAC 60Hz |         |              |                     |                  |                  |                                   |
|                    | 400VAC 50Hz,       | 22      | -            | BZ6F810CAU          |                  |                  |                                   |
|                    | 400 to 440VAC 60Hz |         |              |                     |                  |                  |                                   |
|                    | 24VDC              | 36      | -            | ∆ *1 *2             | Continuous       | 7 to 13          |                                   |
|                    |                    |         |              |                     | with burnout     |                  |                                   |
|                    | 100 to 110VDC      | 24      | -            | ∆ *1 *2             | prevention       |                  |                                   |
|                    |                    |         |              |                     | contact          |                  |                                   |

Notes: \*1:  $\Delta$ Factory-installed accessory. When ordering, specify the rated voltage \*2: Under UL application

## Undervoltage trip

(1) Factory installed Undervoltage Trip for SA100 to 800A frame

|      | Breaker type      | SA102BAUL, SA103BAUL<br>SA102RAUL, SA103RAUL<br>SA202BAUL, SA203BAUL<br>SA202RAUL, SA203RAUL | SA402BUL, SA403BUL<br>SA402RUL, SA403RUL<br>SA603RUL, SA803RUL | Operating voltag | e                     | Terminal No. |
|------|-------------------|--|--|------------------|-----------------------|--------------|
| Code | Operating voltage | Make/hold (VA)   | Make/hold (VA)   | Tripping voltage | Make enabling voltage |              |
| R8   | 24VAC             | 0.76   | 2.0  | 60% to           | 75% or                | P1           |
| R7   | 48VAC             | 1.5  | 2.0  | 35% of           | more of               |              |
| RK   | 100 to 110VAC     | 3.5  | 3.0  | rated            | rated                 |              |
| RY   | 200 to 220VAC     | 2.0  | -  | voltage          | voltage               | P2 3         |
| RU   | 200 to 240VAC     | -  | 3.0  |                  |                       |              |
| R2   | 240VAC            | 2.5  | -  |                  |                       |              |
| RE   | 380 to 480VAC     | -  | 4.0  |                  |                       |              |
| RM   | 24VDC             | 0.76   | 2.0  |                  |                       |              |
| RN   | 48VDC             | 1.5  | 2.0  |                  |                       |              |
| RL   | 100 to 110VDC     | 3.5  | 3.0  |                  |                       |              |
| RZ   | 200 to 220VDC     | 2.0  | 3.0  |                  |                       |              |

## Internal Accessories

#### (2) Field installable Undervoltage Trip for SA52/53RCUL, EA102/103CUL, SG53RCUL, EG102/103CUL

| Applicable Breaker | Operating voltage  | Input   | Part number         | Operating voltag | e                     | Terminal No.   |
|--------------------|--------------------|---------|---------------------|------------------|-----------------------|--|
|                    |                    | (VA, W) | with Terminal block | Tripping voltage | Make enabling voltage |  |
| SA52RCUL           | 100VAC 50Hz,       | 25      | BZ6R210CAU          | 70% to           | 85% or                |  |
| SA53RCUL           | 100 to 110VAC 60Hz |         |                     | 20% of           | more of               | P1   |
| EA102CUL           | 110VAC 50Hz,       | 34      | BZ6R110CAU *        | rated            | rated                 |  |
| EA103CUL           | 110 to 127VAC 60Hz |         |                     | voltage          | voltage               | $\land \land $ |
| SG53RCUL           | 200VAC 50Hz,       | 23      | BZ6RW10CAU          |                  |                       | P2 3   |
| EG102CUL           | 200 to 220VAC 60Hz |         |                     |                  |                       |  |
| EG103CUL           | 220VAC 50Hz,       | 33      | BZ6R410CAU *        |                  |                       |  |
|                    | 220 to 240VAC 60Hz |         |                     |                  |                       |  |
|                    | 230VAC 50Hz,       | 27      | BZ6R510CAU *        |                  |                       |  |
|                    | 230 to 240VAC 60Hz |         |                     |                  |                       |  |
|                    | 240VAC 50Hz        | 22      | BZ6R810CAU *        |                  |                       |  |
|                    | 380VAC 50Hz,       | 33      | BZ6R010CAU *        |                  |                       |  |
|                    | 380 to 415VAC 60Hz |         |                     |                  |                       |  |
|                    | 400VAC 50Hz,       | 27      | BZ6R910CAU          |                  |                       |  |
|                    | 400 to 440VAC 60Hz |         |                     |                  |                       |  |
|                    | 24VDC              | 15      | BZ6RF10CAU *        |                  |                       |  |
|                    | 100 to 110VDC      | 15      | BZ6RT10CAU *        |                  |                       |  |

Note: \*Under UL application

#### • Auxiliary Switches and Alarm Switches

#### Rating

(1) Standard: W, K

| Breaker type      | SA52RCUL, SA53RCUL, EA102CUL, EA103CUL<br>SG53RCUL, EG102CUL, EG103CUL | SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL<br>SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL<br>SG103BAUL, SG203BAUL |                   | Minimum load      |
|-------------------|--|--|-------------------|-------------------|
| Operating voltage | Rated current (A)  | Rated current (A)  | Rated current (A) | W, K: 5V DC 160mA |
| 120V AC           | 3.6  | 3  | 3                 | 30V DC 30mA       |
| 240V AC           | 1.8  | 3  | 3                 |                   |
| 125V DC           | 0.55   | 0.2 *  | 0.2               |                   |
| 250V DC           | 0.27   | 0.2 *  | 0.2               |                   |

Note: \* Manufacturer's self certification

#### (2) For small current: WD, KD

| Breaker type      | SA52RCUL, SA53RCUL, EA102CUL, EA103CUL<br>SG53RCUL, EG102CUL, EG103CUL | SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL<br>SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL<br>SG103BAUL, SG203BAUL |                   | Minimum load      |
|-------------------|--|--|-------------------|-------------------|
| Operating voltage | Rated current (A)  | Rated current (A)  | Rated current (A) | WD, KD: 5V DC 1mA |
| 30V DC            | 0.1  | 0.1  | 0.1               | 30V DC 1mA        |

#### (3) Operation

| Type of switch          | Condition of MCCB |              |                      |  |  |  |
|-------------------------|-------------------|--------------|----------------------|--|--|--|
|                         | ON                | OFF          | TRIP                 |  |  |  |
| Auxiliary switch<br>(W) | Axc1 Axa1 Axb1    | Axc1         | Axa1                 |  |  |  |
| Alarm switch<br>(K)     | ALc1              | ALa1<br>ALb1 | ALa1<br>ALc1<br>ALb1 |  |  |  |

#### (4) Part number of field installable device (for SA52/53RCUL, EA102/103CUL, SG53RCUL, EG102/103CUL)

|            |      | Part number    |              |                          |               |  |
|------------|------|----------------|--------------|--------------------------|---------------|--|
| Accessory  |      | Lead wire type |              | With terminal block type |               |  |
|            |      | Left side      | Right side   | Left side                | Right side    |  |
| Aux        | W    | BZ6WL10CU      | BZ6WR10CU    | BZ6WL10CAU               | BZ6WR10CAU    |  |
|            | WD   | BZ6WDL10CU     | BZ6WDR10CU   | BZ6WDL10CAU              | BZ6WDR10CAU   |  |
| Alarm      | к    | BZ6KL10CU      | BZ6KR10CU    | BZ6KL10CAU               | BZ6KR10CAU    |  |
|            | KD   | BZ6KDL10CU     | BZ6KDR10CU   | BZ6KDL10CAU              | BZ6KDR10CAU   |  |
| Aux, Alarm | WK   | BZ6WKL10CU     | BZ6WKR10CU   | BZ6WKL10CAU              | BZ6WKR10CAU   |  |
|            | WDKD | BZ6WDKDL10CU   | BZ6WDKDR10CU | BZ6WDKDL10CAU            | BZ6WDKDR10CAU |  |

## Internal Accessory Combinations for MCCB

| Left pole + Right pole      | O Auxiliary switch: W | Shunt trip: F        |
|-----------------------------|-----------------------|----------------------|
| Handle on breaker main body | Alarm switch: K       | Undervoltage trip: R |

| Breaker type          | SA52RCUL    | SA53RCUL    | SA102BAUL,SA103BAUL       | SA402BUL,SA403BUL  |
|-----------------------|-------------|-------------|---------------------------|--------------------|
| E. calor type         | EA102CUL *1 | EA103CUL *1 | SA102BAUL,SA103BAUL       | SA402B0L,SA403B0L  |
|                       |             |             | SA202BAUL,SA203BAUL       | SA603RUL, SA803RUL |
|                       |             |             | SA202RAUL,SA203RAUL       | 0,000,002,0,000,02 |
|                       | Poles       |             | 2,3                       | 2,3                |
| Accessories           | 2           | 3           |                           |                    |
| Auxiliary switch (W)  |             |             |                           | o P                |
| Alarm switch (K)      | •           |             |                           |                    |
| Shunt trip (F)        |             |             |                           |                    |
| Undervoltage trip (R) | *2          | *2          | *2                        |                    |
| W2                    | N/A         |             | 0 0                       |                    |
| W+K                   | ••          |             |                           |                    |
| W2+K                  | N/A         |             | <ul> <li>○ ● ○</li> </ul> |                    |
| K2                    | N/A         |             |                           |                    |
| W+K2                  | N/A         |             |                           |                    |
| W2+K2                 | N/A         |             |                           |                    |
| W+F                   | N/A         |             |                           |                    |
| W2+F                  | N/A         | N/A         | N/A                       |                    |
| W+R                   | N/A         | ° 🗕 *2      | ° <b>–</b> 1 *2           |                    |
| W2+R                  | N/A         | N/A         | N/A                       |                    |
| K+F                   | N/A         |             |                           |                    |
| K+R                   | N/A         | *2          | • <b>• *</b> 2            |                    |
| W+K+F                 | N/A         |             |                           |                    |
| W+K+R                 | N/A         | °• • *2     | ● <b>■ 1</b> *2           |                    |
| K2+F                  | N/A         | N/A         | N/A                       |                    |
| K2+R                  | N/A         | N/A         | N/A                       |                    |
| W2+K+F                | N/A         | N/A         | N/A                       |                    |
| W2+K+R                | N/A         | N/A         | N/A                       |                    |
| W+K2+F                | N/A         | N/A         | N/A                       |                    |
| W+K2+R                | N/A         | N/A         | N/A                       |                    |
| W2+K2+F               | N/A         | N/A         | N/A                       |                    |
| W2+K2+R               | N/A         | N/A         | N/A                       |                    |

Note: \*1 Internal accessories can be installed in the field. (see page 17, 18 for part number) \*2 When ordered with undervoltage trip at 225A Frame or smaller, undervoltage trip with terminal block will be supplied as a standard.

## Internal Accessory Combinations for ELCB

| Left pole                   | O Auxiliary switch: W | Shunt trip: F        |
|-----------------------------|-----------------------|----------------------|
| Handle on breaker main body | Alarm switch: K       | Undervoltage trip: R |

| Breaker type          | SG53RCUL              | SG103BAUL |
|-----------------------|-----------------------|-----------|
|                       | EG102CUL, EG103CUL *1 | SG203BAUL |
|                       |                       |           |
|                       |                       |           |
| Poles                 |                       | 3         |
| Accessories           | 2,3                   |           |
| Auxiliary switch (W)  |                       |           |
| Alarm switch (K)      |                       |           |
| Shunt trip (F)        |                       | N/A       |
| Undervoltage trip (R) | *2                    | N/A       |
| W2                    |                       | N/A       |
| W+K                   |                       |           |
| W2+K                  |                       | N/A       |
| К2                    |                       | N/A       |
| W+K2                  |                       | N/A       |
| W2+K2                 |                       | N/A       |
| W+F                   |                       | N/A       |
| W+R                   | ° <b>–</b> *2         | N/A       |
| W2+R                  | N/A                   | N/A       |
| K+F                   |                       | N/A       |
| K+R                   | *2                    | N/A       |
| K2+R                  | N/A                   | N/A       |
| W+K+F                 |                       | N/A       |
| W+K+R                 | *2                    | N/A       |
| W2+K+R                | N/A                   | N/A       |
| W+K2+R                | N/A                   | N/A       |
| W2+K2+R               | N/A                   | N/A       |

Note: \*1 Internal accessories can be installed in the field. (see page 17, 18 for part number) \*2 When ordered shunt trip or undervoltage trip for SG53RCUL, EG102/103CUL, terminal block style will be supplied as a standard.

## External Accessories

#### • Operating Handles

| V type      | N type  | Applicable Breakers                        |
|-------------|---------|--|
| Туре        | Туре    |  |
| BZ6V10C     | BZ6N10C | SA52RCUL, SA53RCUL, SG53RCUL               |
|             |         | EA102CUL, EA103CUL, EG102CUL, EG103CUL     |
| BZ-V30C-EUL | BZ-N30C | SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL |
| BZ-V40C-EUL | BZ-N40C | SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL |
| BZ-V60C-EUL | BZ-N60C | SA402BUL, SA403BUL, SA402RUL, SA403RUL     |
| BZ-V70C-E   | BZ-N70C | SA603RUL, SA803RUL                         |

#### • Terminal Covers

| For Screw Terminals   |                               | For Lug Terminals | *1               | For Flat Terminals | *1               | Applicable Breakers                              |
|-----------------------|-------------------------------|-------------------|------------------|--------------------|------------------|--|
| Туре                  | Packing quantity              | Туре              | Packing quantity | Туре               | Packing quantity |  |
| BZ6TS10C2U (Short) *2 | 2                             |                   |                  |                    |                  | SA52RCUL, EA102CUL                               |
| BZ6TB10C2C (Long) *2  | 2                             | ] _               | _                | _                  | _                |  |
| BZ6TS10C3C (Short) *2 | 2                             |                   |                  |                    |                  | SA53RCUL, EA103CUL, SG53RCUL, EG102CUL, EG103CUL |
| BZ6TB10C3U (Long) *2  | 2                             | _                 |                  |                    | _                |  |
| BZ-TS30B-3 (Short)    | 2                             | BZ-TB30B-3        |                  | BZ-TL30B-3         |                  | SA102BAUL, SA103BAUL, SG103BAUL *1               |
| BZ-TB30B-3 (Long)     | 2                             |                   | 2                |                    | 2                | SA102RAUL, SA103RAUL                             |
| BZ-TS40B (Short)      | 2                             | BZ-TB40B          |                  | BZ-TL40B           |                  | SA202BAUL, SA203BAUL, SG203BAUL *1               |
| BZ-TB40B (Long)       | 2                             |                   | 2                |                    | 2                | SA202RAUL, SA203RAUL                             |
|                       |                               | BZ-TB60B          |                  | BZ-TB60B           |                  | SA402BUL, SA403BUL                               |
| -                     | -                             |                   | 2                |                    | 2 8              | SA402RUL, SA403RUL                               |
|                       | comes with a breaker BZ-TB70B |                   |                  | SA603RUL           |                  |  |
| -                     | _                             |                   |                  |                    | 2                | SA803RUL   |

Note: \*1 Lug Terminals and Flat Terminals are not available on SG103BAUL and SG203BAUL. \*2 Terminal covers are supplied with a breaker as a standard. If required "Long Terminal cover", please specify "TB" in the part number. (see page 7, 8)

#### Insulation Barriers

| Insulation barri | ers              | Applicable Breakers   |
|------------------|------------------|---|
| Туре             | Packing quantity |   |
| BZ6B10C          | 4                | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CUL *2 |
| BZ-B30B          | 4                | SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL, SG103BAUL *1                |
| BZ-B40B          | 4                | SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL, SG203BAUL *1                |
| B-43A            | 4                | SA402BUL, SA403BUL, SA402RUL, SA403RUL, SA603RUL, SA803RUL *1           |

Note: \*1 Insulation Barriers for line side and load side are provided with the Breaker (2-pole Breaker: 2 pcs.; 3-pole Breaker: 4 pcs.) as a standard. \*2 Insulation Barriers are required for only flat terminal type.

#### • Terminal Kits (Field Installable)

| Flat Terminal Kits |                     | Lug Terminal Kit |                     | Applicable Breakers                               |
|--------------------|---------------------|------------------|---------------------|---|
| Туре               | Packing quantity *1 | Туре             | Packing quantity *1 |   |
| BZ-SU20B           | 3                   | -                | -                   | SA52RCUL, SA53RCUL, SG53RCUL                      |
| BZ-SU25B           | 3                   | -                | -                   | EA102CUL, EG102CUL, EA103CUL, EG103CUL            |
| BZ-SU35B           | 3                   | BZ-TA100         | 3                   | SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL        |
| BZ-SU50B           | 3                   | BZ-TA225         | 3                   | SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL        |
| BZ-SU60B           | 3                   | BZ-TA350         | 3                   | SA402BUL, SA403BUL, SA402RUL, SA403RUL (250-350A) |
|                    |                     | BZ-TA400         | 3                   | SA402BUL, SA403BUL, SA402RUL, SA403RUL (400A)     |
| BZ-SU70B-600       | 3                   | BZ-TA600 *2      | 3                   | SA603RUL  |
| BZ-SU70B-800       | 3                   | BZ-TA700 *2      | 3                   | SA803RUL (700A)                                   |
|                    |                     | BZ-TA800 *2      | 3                   | SA803RUL (800A)                                   |

Note: \*1 It is required to order 2 terminal kits to complete a breaker (Line side: 3 pcs, Load side: 3 pcs). \*2 A terminal cover comes with a kit.

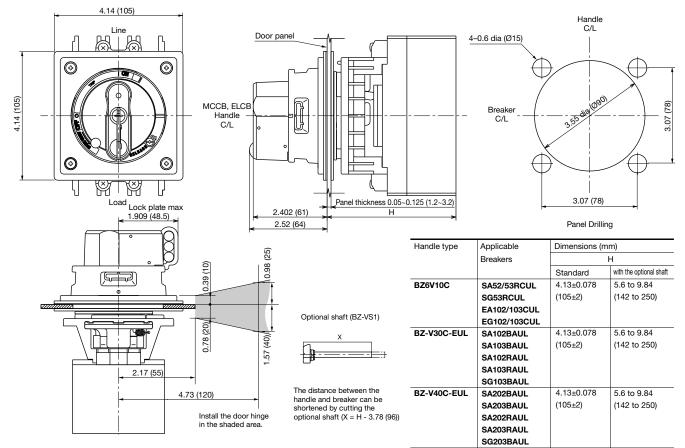
#### Handle Lock Covers for Lockout

| Handle Lock Covers | Applicable Breakers  |
|--------------------|--|
| Туре               |  |
| BZ6L10C            | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CUL |
| BZ-L30C            | SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL, SG103BAUL                |
| BZ-L40C            | SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL, SG203BAUL                |

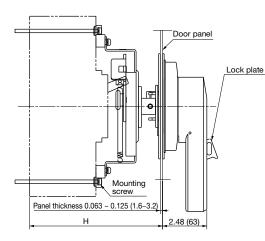
Note: 400A. 600A, 800A Frame are required to order with "Q1" if needed to be lockout by padlock.

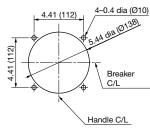
## Operating Handles Dimensions Unit: inch (mm)

1) 50A~225A Frame V Type Handle

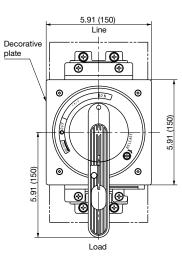


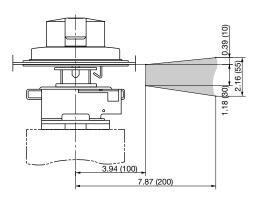
2 400A~800A Frame V Type Handle





Panel Drilling





Install the door hinge in the shaded area.

Note: Handle protection structure IP54 (IEC529, JIS C0920)

| Handle type | Applicable         | Dimensions (mm)<br>H |                         |  |
|-------------|--------------------|----------------------|-------------------------|--|
|             | Breakers           |                      |                         |  |
|             |                    | Standard             | with the optional shaft |  |
|             | SA402BUL           | 7.48±0.078           | 7.96 to 9.84            |  |
| BZ-V60C-EUL | SA403BUL           | (190±2)              | (202 to 250)            |  |
|             | SA402RUL           |                      |                         |  |
|             | SA403RUL           |                      |                         |  |
| BZ-V70C-E   | SA603RUL, SA803RUL | 7.48±0.078           | 7.96 to 9.84            |  |
|             |                    | (190±2)              | (202 to 250)            |  |

The distance between the handle and breaker can be shortened by cutting the optional shaft (X = H - 6.36 (161.5))

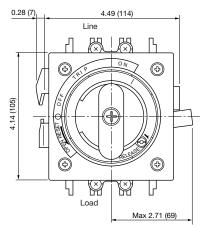
Optional shaft (BZ-VS2)

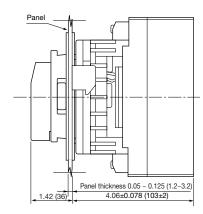
E

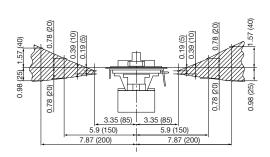
Note: Handle protection structure IP54 (IEC529, JIS C0920)

## Operating Handles Dimensions Unit: inch (mm)

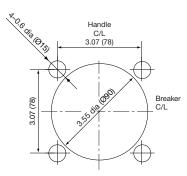
(1) 50A~225A Frame N Type Handle (Dust proof packing: BZ-NP-1C)







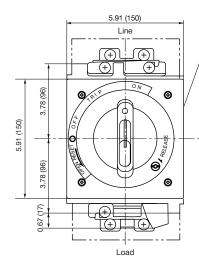
Install the door hinge in the shaded area.

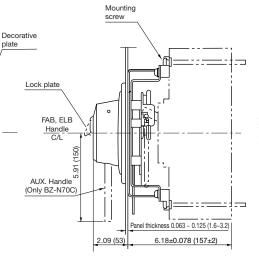


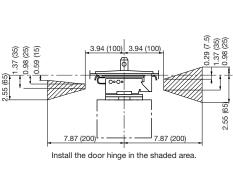
| Handle type | Applicable Bre | eakers    | Mounting screw |
|-------------|----------------|-----------|----------------|
| BZ6N10C     | SA52RCUL       | EA102CUL  | #8-32X31/2     |
|             | SA53RCUL       | EA103CUL  | (M4X85)        |
|             | SG53RCUL       | EG102CUL  |                |
|             |                | EG103CUL  |                |
| BZ-N30C     | SA102BAUL      | SG103BAUL | #8-32X31/2     |
|             | SA103BAUL      |           | (M4X85)        |
|             | SA102RAUL      |           |                |
|             | SA103RAUL      |           |                |
| BZ-N40C     | SA202BAUL      | SG203BAUL | #8-32X31/2     |
|             | SA203BAUL      |           | (M4X85)        |
|             | SA202RAUL      |           |                |
|             | SA203RAUL      |           |                |

Note: When using a Dust-proof packing, Handle protection structure is IP 50 (IEC 529, JIS C0920)

#### (2) 400A ~ 800A Frame N Type Handle (Dust proof packing: BZ-NP-2)







Panel Drilling

| Handle type | Applicable Breakers | Mounting screw |
|-------------|---------------------|----------------|
| BZ-N60C     | SA402BUL            | 1/4-20X41/2    |
|             | SA403BUL            | (M6X110)       |
|             | SA402RUL            |                |
|             | SA403RUL            |                |
| BZ-N70C     | SA603RUL, SA803RUL  |                |

Note: When using a Dust-proof packing, Handle protection structure is IP 50 (IEC 529, JIS C0920)

## Wiring

① Connecting Precautions

- When connecting the wires, follow the instruction of NEC (National Electric Code, USA) or CEC (Canadian Electrical code Part 1, Canada).
- For connecting, use the copper wire for 75°C. It is recommended to use the UL or CSA approved wires.
- Keep the connection of the wire tight sufficiently, because the very large electromagnetic force will be generated, when the short circuit current is applied.
- Perform the additional tightening of the terminal screws periodically.

#### (2) Terminal Construction

|                       | Screw Terminals | Flat Terminals | Lug Terminals |
|-----------------------|-----------------|----------------|---------------|
| 50A, EA/EG 100A Frame | 0               | 0              | _             |
| SA100~225A Frame      | 0               | 0              | 0             |
| SG100~225A Frame      | 0               | -              | -             |
| 400~800A Frame        | —               | 0              | 0             |

○: Available – : Not available

## **∆** Caution

- To the Lug terminal two wires can not be connected at once.
- Follow the number of the strands of the wire indicated in the table.
- The multiconductor wire can not be connected.
- Do not solder the end of the wire.

## (3) Allowable wire spec for Lug Terminals

Number of strands connecting wires

| Wire size AWG or MCM (mm <sup>2</sup> ) | Number of strands |
|---|-------------------|
| 14 – 2 (2.1 – 33.6)                     | 7                 |
| 1 - 4/0 (42.4 - 107.2)                  | 19                |
| 250 - 500 (127 - 250)                   | 37                |

(mm²) Values are those converted from AWG or MCM size

| Max Wire Sizes and | Tightening | Torque |
|--------------------|------------|--------|
|--------------------|------------|--------|

#### (1) Screw Terminals

|   | Applicable Breakers  | Rated Current | Applicable Ring (Crimp) | Wire Size *2                   | Tightening Torque | Screw Size       |
|---|----------------------|---------------|-------------------------|--------------------------------|-------------------|------------------|
|   |                      | (A)           | Terminal *1             | AWG (mm <sup>2</sup> )         | lbin. (N • m)     | (mm)             |
| 1 | SA52RCUL, SA53RCUL   | 3             | R2-5                    | 14AWG (2.1mm <sup>2</sup> )    | 20~25 lbin.       | Cross recessed   |
|   | SG53RCUL             | 5             | R2-5                    | 14AWG (2.1mm <sup>2</sup> )    | (2.3~2.8 N • m)   | head screw       |
|   |                      | 10            | R2-5                    | 14AWG (2.1mm <sup>2</sup> )    |                   | (M5 x 14)        |
|   |                      | 15            | R2-5                    | 14AWG (2.1mm <sup>2</sup> )    |                   |                  |
|   |                      | 20            | R5.5-5                  | 12AWG (3.3mm <sup>2</sup> )    |                   |                  |
|   |                      | 30            | R5.5-5                  | 10AWG (5.3mm <sup>2</sup> )    |                   |                  |
|   |                      | 40            | R8-5                    | 8AWG (8.4mm <sup>2</sup> )     |                   |                  |
|   |                      | 50            | R14-5                   | 6AWG (13.3mm <sup>2</sup> )    |                   |                  |
| 2 | EA102CUL, EA103CUL   | 60            | R14-8                   | 6AWG (13.3mm <sup>2</sup> )    | 50~65 lbin.       | Cross recessed   |
|   | EG102CUL, EG103CUL   | 75            | 22-S8                   | 4AWG (21.2mm <sup>2</sup> )    | (5.5~7.5N • m)    | head screw       |
|   |                      | 100           | 38-S8                   | 3AWG (26.7mm <sup>2</sup> )    |                   | (M8 x 14)        |
| 3 | SA102BAUL, SA103BAUL | 15            | R2-8                    | 14AWG (2.1mm <sup>2</sup> )    | 50 lbin.          | Cross recessed   |
|   | SA102RAUL, SA103RAUL | 20            | R5.5-8                  | 12AWG (3.3mm <sup>2</sup> )    | (5.8 N • m)       | head screw       |
|   | SG103BAUL            | 30            | R5.5-8                  | 10AWG (5.3mm <sup>2</sup> )    |                   | (M8 x 14)        |
|   |                      | 32            | R8-8                    | 8AWG (8.4mm <sup>2</sup> )     |                   |                  |
|   |                      | 40            | R8-8                    | 8AWG (8.4mm <sup>2</sup> )     |                   |                  |
|   |                      | 50            | R8-8                    | 8AWG (8.4mm <sup>2</sup> )     |                   |                  |
|   |                      | 60            | R14-8                   | 6AWG (13.3mm <sup>2</sup> )    |                   |                  |
|   |                      | 70            | 22-S8                   | 4AWG (21.2mm <sup>2</sup> )    |                   |                  |
|   |                      | 75            | 22-S8                   | 4AWG (21.2mm <sup>2</sup> )    |                   |                  |
|   |                      | 80            | 22-S8                   | 4AWG (21.2mm <sup>2</sup> )    |                   |                  |
|   |                      | 90            | 38-S8                   | 3AWG (26.7mm <sup>2</sup> )    |                   |                  |
|   |                      | 100           | 38-S8                   | 3AWG (26.7mm <sup>2</sup> )    |                   |                  |
| 4 | SA202BAUL, SA203BAUL | 125           | 38-S8                   | 1AWG (42.4mm <sup>2</sup> )    | 200 lbin.         | Hexagonal socket |
|   | SA202RAUL, SA203RAUL | 150           | R60-8                   | 1/0AWG (53.5mm <sup>2</sup> )  | (23 N • m)        | head bolt        |
|   | SG203BAUL            | 175           | 70-8                    | 2/0AWG (67.4mm <sup>2</sup> )  |                   | (M8 x 14)        |
|   |                      | 200           | CB80-S8                 | 3/0AWG (85.0mm²)               |                   |                  |
|   |                      | 225           | CB100-S8                | 4/0AWG (107.2mm <sup>2</sup> ) |                   |                  |

Notes: \*1 Ring (Crimp) Terminal Manufacturer : JST=Japan Solderless Terminal MFG Co., Ltd. DST=Daido Solderless Terminal MFG Co., Ltd. AIKOKUJ=Aikoku Kogyou KK. NICHIFU=Nichifu Terminal Co., Ltd.

\*2 167°F (75°C) Copper wire

## (2) Flat Terminals

| I | Applicable Breakers          | Rated Current | Applicable Ring (Crimp) | Wire Size *2                                    | Tightening Torque | Screw Size               |
|---|------------------------------|---------------|-------------------------|---|-------------------|--------------------------|
|   |                              | (A)           | Terminal *1             | AWG (mm <sup>2</sup> )                          | lbin. (N ∙ m)     | inch (mm)                |
| 1 | SA52RCUL/□L1                 | 3             | R2-5                    | 14AWG (2.1mm²)                                  | 30~40 lbin.       |                          |
|   | SA53RCUL/□L1                 | 5             | R2-5                    | 14AWG (2.1mm²)                                  | (3.5~4.5 N • m)   |                          |
|   | SG53RCUL/□L1                 | 10            | R2-5                    | 14AWG (2.1mm²)                                  |                   |                          |
|   |                              | 15            | R2-5                    | 14AWG (2.1mm²)                                  |                   |                          |
|   |                              | 20            | R5.5-5                  | 12AWG (3.3mm <sup>2</sup> )                     |                   |                          |
|   |                              | 30            | R5.5-5                  | 10AWG (5.3mm <sup>2</sup> )                     |                   |                          |
|   |                              | 40            | R8-5                    | 8AWG (8.4mm <sup>2</sup> )                      |                   |                          |
|   |                              | 50            | R8-5                    | 8AWG (8.4mm <sup>2</sup> )                      |                   |                          |
| 2 | EA102CUL/□L1, EA103CUL/□L1   | 60            | R14-8                   | 6AWG (13.3mm <sup>2</sup> )                     | 70~90 lbin.       |                          |
|   | EG102CUL/□L1, EG103CUL/□L1   | 75            | 22-S8                   | 4AWG (21.2mm <sup>2</sup> )                     | (8~10 N ∙ m)      |                          |
|   |                              | 100           | 38-S8                   | 3AWG (26.7mm <sup>2</sup> )                     |                   |                          |
| 3 | SA102BAUL/ L1, SA103BAUL/ L1 | 15            | R2-8                    | 14AWG (2.1mm <sup>2</sup> )                     | 50 lbin.          | Hexagonal head bolt      |
|   | SA102RAUL/□L1, SA103RAUL/□L1 | 20            | R5.5-8                  | 12AWG (3.3mm <sup>2</sup> )                     | (5.8 N • m)       | #5/16-18 x 1             |
|   |                              | 30            | R5.5-8                  | 10AWG (5.3mm <sup>2</sup> )                     |                   | (M8 x 25)                |
|   |                              | 40            | R8-8                    | 8AWG (8.4mm <sup>2</sup> )                      |                   |                          |
|   |                              | 50            | R8-8                    | 8AWG (8.4mm <sup>2</sup> )                      |                   |                          |
|   |                              | 60            | R14-8                   | 6AWG (13.3mm <sup>2</sup> )                     |                   |                          |
|   |                              | 70            | 22-S8                   | 4AWG (21.2mm <sup>2</sup> )                     |                   |                          |
|   |                              | 75            | 22-S8                   | 4AWG (21.2mm <sup>2</sup> )                     |                   |                          |
|   |                              | 80            | 22-S8                   | 4AWG (21.2mm <sup>2</sup> )                     |                   |                          |
|   |                              | 90            | 38-S8                   | 3AWG (26.7mm <sup>2</sup> )                     |                   |                          |
|   |                              | 100           | 38-S8                   | 3AWG (26.7mm <sup>2</sup> )                     |                   |                          |
| 4 | SA202BAUL/ L1, SA203BAUL/ L1 | 125           | 38-S8                   | 1AWG (42.4mm <sup>2</sup> )                     | 200 lbin.         | Hexagonal head bolt      |
|   | SA202RAUL/□L1, SA203RAUL/□L1 | 150           | R60-8                   | 1/0AWG (53.5mm <sup>2</sup> )                   | (23 N • m)        | #5/16-18 x 1             |
|   |                              | 175           | 70-8                    | 2/0AWG (67.4mm <sup>2</sup> )                   |                   | (M8 x 25)                |
|   |                              | 200           | CB80-S8                 | 3/0AWG (85.0mm <sup>2</sup> )                   |                   |                          |
|   |                              | 225           | CB100-S8                | 4/0AWG (107.2mm <sup>2</sup> )                  |                   |                          |
| 5 | SA402BUL/□L1, SA403BUL/□L1   | 250           | 150-12                  | 250MCM (126.7mm <sup>2</sup> )                  | 385 lbin.         | Hexagonal head bolt      |
|   | SA402RUL/□L1, SA403RUL/□L1   | 300           | 180-12                  | 350MCM (177.4mm <sup>2</sup> )                  | (43.5 N • m)      | #1/2-13 x 1.5            |
|   |                              | 350           | 325-12                  | 500MCM (253.4mm <sup>2</sup> )                  |                   | (M12 x 40)               |
|   |                              | 400           | R80-12 x2 pcs           | 3/0AWG x2 wires (85.0mm <sup>2</sup> x 2 wires) |                   |                          |
| 6 | SA603RUL/□L1                 | 500           | 150-12 x2 pcs           | 250MCM x2 wires (126.7mm <sup>2</sup> x2 wires) | 416 lbin.         | Hexagonal head bolt      |
|   |                              | 600           | 180-12 x2 pcs           | 350MCM x2 wires (177.4mm <sup>2</sup> x2 wires) | (47 N ∙ m)        | #1/2-13 x 1.5 (M12 x 40) |
| 7 | SA803RUL/□L1                 | 700           | 325-12 x2 pcs           | 500MCM x2 wires (253.4mm <sup>2</sup> x2 wires) | 416 lbin.         | Hexagonal head bolt      |
|   |                              | 800           |                         | -   | (47 N ∙ m)        | #1/2-13 x 1.5 (M12 x 40) |

Notes: \*1 Ring (Crimp) Terminal Manufacturer : JST=Japan Solderless Terminal MFG Co., Ltd. DST=Daido Solderless Terminal MFG Co., Ltd. AIKOKU=Aikoku Kogyou KK. NICHIFU=Nichifu Terminal Co., Ltd.

\*2 167°F (75°C) Copper wire

## (3) Lug Terminals

|   | Applicable Breakers        | Rated Current | Wire Size Range *1  | Tightening Torque      | Screw Size |
|---|----------------------------|---------------|---|------------------------|------------|
|   |                            | (A)           | AWG (mm <sup>2</sup> )  | lbin. (N ● m)          | inch       |
| 1 | SA102BAUL/□L, SA103BAUL/□L | 15-100        | 14AWG (2.1mm <sup>2</sup> )-1/0AWG (53.5mm <sup>2</sup> )                   | 50 lbin. (5.8 N • m)   | #7/16-20   |
|   | SA102RAUL/□L, SA103RAUL/□L |               |   |                        |            |
| 2 | SA202BAUL/□L, SA203BAUL/□L | 125-225       | 1AWG (42.4mm <sup>2</sup> )-300MCM (152mm <sup>2</sup> )                    | 200 lbin. (23 N • m)   | #5/8-18    |
|   | SA202RAUL/□L, SA203RAUL/□L |               |   |                        |            |
| 3 | SA402BUL/□L, SA403BUL/□L   | 250, 300, 350 | 3/0AWG (85.0mm <sup>2</sup> )-500MCM (253.4mm <sup>2</sup> )                | 375 lbin. (43.5 N • m) | #3/4-16    |
|   | SA402RUL/□L, SA403RUL/□L   | 400           | 3/0AWG x 2 (85.0mm <sup>2</sup> x 2)  | 275 lbin. (31.1 N • m) |            |
| 4 | SA603RUL/□L                | 500, 600      | 250MCM x 2 (126.7mm <sup>2</sup> x 2)-500MCM x 2 (253.4mm <sup>2</sup> x 2) | 275 lbin. (31.1 N • m) | #5/8-18    |
| 5 | SA803RUL/□L                | 700           | 250MCM x 2 (126.7mm <sup>2</sup> x 2)-500MCM x 2 (253.4mm <sup>2</sup> x 2) | 275 lbin. (31.1 N • m) | #5/8-18    |
|   |                            | 800           | 3/0AWG x 3 (85.0mm <sup>2</sup> x 3)-300MCM x 3 (152mm <sup>2</sup> x 3)    |                        |            |

Note: \*1 167°F (75°C) Copper wire

## ■ MCCB, ELCB List Price

| Frame Size              |                      |   | 50A   |   |   |   | 100A  |   |   |   |  |
|-------------------------|----------------------|---|---|---|---|---|---|---|---|---|--|
| Poles                   |                      |   | 2   |   | 3   |   | 2   |   | 3   |   |  |
| Туре                    |                      |   | SA52RCUL  |   | SA53RCUL  |   | EA102CUL  |   | EA103CUL  |   |  |
| Interrupting Ca         | apacity (KA)         | 480V  | -   |   | -   |   | -   |   | -   |   |  |
|                         |                      | 480VY/277V  | -   |   | _   |   | -   |   | -   |   |  |
|                         |                      | 240V  | 14  |   | 14  |   | 14  |   | 14  |   |  |
| Rated current           | (A)                  |   | 3,5,10,15,20,   | 30.40.50  | 3,5,10,15,20,3  | 30.40.50  | 60,75,100   |   | 60,75,100   |   |  |
| List Price              | Breaker              | Base unit with  |   |   |   | ,,  | ,,  |   |   |   |  |
|                         | base unit            | Screw terminal *1   | 160   | 0.00  | 200   | ).00  | 180   | 0.00  | 220   | 0.00  |  |
|                         |                      | Lug terminal (L) *2   |   | _   |   | -   |   | -   |   | -   |  |
|                         |                      | Base unit with<br>Flat terminal (L1) *3   |   | 2.00  |   | 3.00  |   | 2.00  |   | 3.00  |  |
|                         | Internal             | W/K   |   | 4   |   | 4   |   | *4  |   | 4   |  |
|                         | accessories          | WD / KD   | *   | 4   | *   | 4   |   | *4  | ,   | 4   |  |
|                         |                      | W2 / K2   | *   | 4   | *   | 4   | •   | *4  |   | 4   |  |
|                         |                      | WD2 / KD2   | *   | 4   | *   | 4   |   | 4   |   | 4   |  |
|                         |                      | F   | *   | 4   | *   | 4   |   | *4  | ,   | 4   |  |
|                         |                      | R   | *   | 4   | *   | 4   |   | *4  |   | 4   |  |
|                         |                      | А   | *   | 4   | *   | 4   | ,   | *4  | ,   | 4   |  |
|                         |                      | Q1  |   | _   |   | _   |   | _   |   | _   |  |
| Frame Size              |                      |   | 100A  |   |   |   | 225A  |   |   |   |  |
| Poles                   |                      |   | 2   | 3   | 2   | 3   | 225A<br>2   | 2   | 2   | 2   |  |
| Type                    |                      |   |   |   |   |   |   | 3<br>640020414                                |   | 3   |  |
| Iype<br>Interrupting Ca | apacity (KA)         | 480V  | SA102BAUL   | SA103BAUL   | SA102RAUL   | SA103RAUL   | SA202BAUL   | SA203BAUL                                     | SA202RAUL   | SA203RAU  |  |
| interrupting Ca         | арасну (ка)          |   | -   | -   | -   | -   | -   | -   | -   | -   |  |
|                         |                      | 480VY/277V  | -   | -   | 25  | 25  | -   | -   | -   | 25  |  |
|                         |                      | 240V  | 35  | 35  | 85  | 85  | 35  | 35  | 85  | 85  |  |
| Rated current           | (A)                  | -   | 15,20,30,40,50,   | 60,70,75,80,90,100  | 15,20,30,40,50,6  | 0,70,75,80,90,100   | 125,150,175,2   | 200,225                                       | 125,150,175,2   | 200,225   |  |
| List Price              | Breaker<br>base unit | Base unit with<br>Screw terminal *1   | 250.00  | 290.00  | 300.00  | 360.00  | 536.00  | 654.00  | 616.00  | 704.00  |  |
|                         |                      | Base unit with<br>Lug terminal (L) *2   | 270.00  | 320.00  | 320.00  | 390.00  | 600.00  | 750.00  | 680.00  | 800.00  |  |
|                         |                      | Base unit with<br>Flat terminal (L1) *3   | 286.00  | 344.00  | 336.00  | 414.00  | 584.00  | 726.00  | 664.00  | 776.00  |  |
|                         | Internal             | W/K   | 66.00   | 66.00   | 66.00   | 66.00   | 76.00   | 76.00   | 76.00   | 76.00   |  |
|                         | accessories          | WD / KD   | 76.00   | 76.00   | 76.00   | 76.00   | 86.00   | 86.00   | 86.00   | 86.00   |  |
|                         |                      | W2 / K2   | 132.00  | 132.00  | 132.00  | 132.00  | 152.00  | 152.00  | 152.00  | 152.00  |  |
|                         |                      | WD2 / KD2   | 152.00  | 152.00  | 152.00  | 152.00  | 172.00  | 172.00  | 172.00  | 172.00  |  |
|                         |                      | F   |   |   |   |   |   |   |   |   |  |
|                         |                      |   | 140.00  | 140.00  | 140.00  | 140.00  | 160.00  | 160.00  | 160.00  | 160.00  |  |
|                         |                      | R   | 210.00  | 210.00  | 210.00  | 210.00  | 300.00  | 300.00  | 300.00  | 300.00  |  |
|                         |                      | A   | 30.00   | 30.00   | 30.00   | 30.00   | 30.00   | 30.00   | 30.00   | 30.00   |  |
|                         |                      | Q1  | -   | -   | -   | -   | -   | -   | -   | -   |  |
| Frame Size              |                      |   | 400A  |   |   |   |   |   |   |   |  |
| Poles                   |                      |   | 2   | 2   | 3   | 3   | 2   | 2   | 3   | 3   |  |
| Туре                    |                      |   | SA402BUL  | SA402BUL  | SA403BUL  | SA403BUL  | SA402RUL  | SA402RUL                                      | SA403RUL  | SA403RUL  |  |
| Interrupting Ca         | anacity (KA)         | 480V  |   |   |   |   |   |   |   |   |  |
| Interrupting Ca         |                      |   | 25  | 25  | 25  | 25  | 50  | 50  | 50  | 50  |  |
|                         |                      | 480VY/277V  | 25  | 25  | 25  | 25  | 50  | 50  | 50  | 50  |  |
|                         |                      | 240V  | 42  | 42  | 42  | 42  | 85  | 85  | 85  | 85  |  |
| Rated current           | (A)                  |   | 250,300,350   | 400   | 250,300,350   | 400   | 250,300,350   | 400   | 250,300,350   | 400   |  |
| List Price              | Breaker<br>base unit | Base unit with<br>Screw terminal *1   | -   | -   | _   | -   | -   | _   | -   | _   |  |
|                         | base unit            |   |   |   |   | 1,600.00  | 1,100.00  | 1,480.00                                      | 1,380.00  | 1,800.00  |  |
|                         |                      | Base unit with<br>Lug terminal (L) *2   | 950.00  | 1,230.00  | 1,200.00  | 1,000.00  | .,  |   | ,   |   |  |
|                         |                      |   | 950.00<br>950.00  | 1,230.00<br>1,058.00                                      | 1,200.00  | 1,342.00  | 1,100.00  | 1,308.00                                      | 1,380.00  | 1,542.00  |  |
|                         |                      | Lug terminal (L) *2<br>Base unit with<br>Flat terminal (L1) *3  | 950.00  | 1,058.00  | 1,200.00  | 1,342.00  | 1,100.00  |   | 1,380.00  |   |  |
|                         | Internal             | Lug terminal (L) *2<br>Base unit with<br>Flat terminal (L1) *3<br>W / K   | 950.00<br>90.00   | 1,058.00  | 1,200.00<br>90.00   | 1,342.00<br>90.00   | 1,100.00<br>90.00   | 90.00   | 1,380.00<br>90.00   | 90.00   |  |
|                         |                      | Lug terminal (L) *2<br>Base unit with<br>Flat terminal (L1) *3<br>W / K<br>WD / KD                              | 950.00<br>90.00<br>100.00                               | 1,058.00<br>90.00<br>100.00                               | 1,200.00<br>90.00<br>100.00                               | 1,342.00<br>90.00<br>100.00                               | 1,100.00<br>90.00<br>100.00                               | 90.00<br>100.00                               | 1,380.00<br>90.00<br>100.00                               | 90.00   |  |
|                         | Internal             | Lug terminal (L) *2<br>Base unit with<br>Flat terminal (L1) *3<br>W / K<br>WD / KD<br>W2 / K2                   | 950.00<br>90.00   | 1,058.00  | 1,200.00<br>90.00   | 1,342.00<br>90.00   | 1,100.00<br>90.00   | 90.00   | 1,380.00<br>90.00   | 90.00   |  |
|                         | Internal             | Lug terminal (L) *2<br>Base unit with<br>Flat terminal (L1) *3<br>W / K<br>WD / KD                              | 950.00<br>90.00<br>100.00                               | 1,058.00<br>90.00<br>100.00                               | 1,200.00<br>90.00<br>100.00                               | 1,342.00<br>90.00<br>100.00                               | 1,100.00<br>90.00<br>100.00                               | 90.00<br>100.00                               | 1,380.00<br>90.00<br>100.00                               | 90.00<br>100.00<br>180.00   |  |
|                         | Internal             | Lug terminal (L) *2<br>Base unit with<br>Flat terminal (L1) *3<br>W / K<br>WD / KD<br>W2 / K2                   | 950.00<br>90.00<br>100.00<br>180.00                     | 1,058.00<br>90.00<br>100.00<br>180.00                     | 1,200.00<br>90.00<br>100.00<br>180.00                     | 1,342.00<br>90.00<br>100.00<br>180.00                     | 1,100.00<br>90.00<br>100.00<br>180.00                     | 90.00<br>100.00<br>180.00                     | 1,380.00<br>90.00<br>100.00<br>180.00                     | 90.00<br>100.00<br>180.00<br>200.00   |  |
|                         | Internal             | Lug terminal (L) *2<br>Base unit with<br>Flat terminal (L1) *3<br>W / K<br>WD / KD<br>W2 / K2<br>WD2 / KD2      | 950.00<br>90.00<br>100.00<br>180.00<br>200.00           | 1,058.00<br>90.00<br>100.00<br>180.00<br>200.00           | 1,200.00<br>90.00<br>100.00<br>180.00<br>200.00           | 1,342.00<br>90.00<br>100.00<br>180.00<br>200.00           | 1,100.00<br>90.00<br>100.00<br>180.00<br>200.00           | 90.00<br>100.00<br>180.00<br>200.00           | 1,380.00<br>90.00<br>100.00<br>180.00<br>200.00           | 90.00<br>100.00<br>180.00<br>200.00<br>200.00                                 |  |
|                         | Internal             | Lug terminal (L) *2<br>Base unit with<br>Flat terminal (L1) *3<br>W / K<br>WD / KD<br>W2 / K2<br>WD2 / KD2<br>F | 950.00<br>90.00<br>100.00<br>180.00<br>200.00<br>200.00 | 1,058.00<br>90.00<br>100.00<br>180.00<br>200.00<br>200.00 | 1,200.00<br>90.00<br>100.00<br>180.00<br>200.00<br>200.00 | 1,342.00<br>90.00<br>100.00<br>180.00<br>200.00<br>200.00 | 1,100.00<br>90.00<br>100.00<br>180.00<br>200.00<br>200.00 | 90.00<br>100.00<br>180.00<br>200.00<br>200.00 | 1,380.00<br>90.00<br>100.00<br>180.00<br>200.00<br>200.00 | 1,542.00<br>90.00<br>100.00<br>180.00<br>200.00<br>200.00<br>300.00<br>300.00 |  |

## MCCB, ELCB List Price

| Frame Size  |                      |   | 600A                  |        | 800A     |           |                    |          |                     |  |
|---|----------------------|---|-----------------------|--------|----------|-----------|--------------------|----------|---------------------|--|
| Poles   |                      |   | 3                     |        | 3        |           |                    | 3        |                     |  |
| Туре  |                      |   | SA603RUL              |        | SA803RUL |           |                    | SA803RUL |                     |  |
| Interrupting Capacity (KA)         480V           480VY/277V         240V |                      | 50                                      |                       | 50     |          |           | 50                 |          |                     |  |
|   |                      | 480VY/277V                              | 50                    |        | 50       |           |                    | 50       |                     |  |
|   |                      | 85                                      |                       | 85     |          |           | 85                 |          |                     |  |
| Rated current (A)   |                      |   | 500,600               |        | 700      |           |                    | 800      |                     |  |
| List Price  | Breaker<br>base unit | Base unit with<br>Screw terminal *1     | _                     |        | -        |           | _                  |          |                     |  |
|   |                      | Base unit with<br>Lug terminal (L) *2   | 3,100.00              |        | 4,180.00 |           |                    | 4,200.00 |                     |  |
|   |                      | Base unit with<br>Flat terminal (L1) *3 | 2,836.00              |        | 3,574.00 |           |                    | 3,576.00 |                     |  |
|   | Internal             | W/K                                     | 90.00                 |        |          | 90.00     |                    | 90.00    |                     |  |
|   | accessories          | WD / KD                                 | 100.00                |        | 100.00   |           |                    | 100.00   |                     |  |
|   |                      | W2 / K2                                 | 180.00                |        | 180.00   |           |                    | 180.00   |                     |  |
|   |                      | WD2 / KD2                               | 200.00                |        | 200.00   |           |                    | 200.00   |                     |  |
|   |                      | F                                       | 200.00                |        | 200.00   |           |                    | 200.00   |                     |  |
|   |                      | R                                       | 300.00                |        | 300.00   |           |                    | 300.00   |                     |  |
|   |                      | A                                       | 30.00                 |        | 30.00    |           |                    | 30.00    |                     |  |
|   |                      | Q1                                      | 50.00                 |        | 50.00    |           |                    | 50.00    |                     |  |
| Frame Size  |                      |   | 50A                   | 100A   |          |           |                    |          | 225A                |  |
| Poles   |                      |   | 3 2                   |        | 3 3      |           | 3                  |          |                     |  |
| Туре  |                      |   | SG53RCUL EG102CUL     |        | EG103CUL |           | SG103BAUL          |          | SG203BAUL           |  |
| Interrupting Capacity (KA)  |                      | 480V                                    | -                     | -      |          | -         | -                  |          | -                   |  |
|   |                      | 480VY/277V                              | _                     | _      |          | _         | _                  |          | _                   |  |
|   |                      | 240V                                    | 14                    | 14     |          | 14        | 35                 |          | 35                  |  |
| Rated current (A)   |                      |   | 3,5,10,15,20,30,40,50 |        |          | 60,75,100 | 32,40,50,60,75,100 |          | 125,150,175,200,225 |  |
| List Price  | Breaker<br>base unit | Base unit with<br>Screw terminal *1     | 640.00                | 640.00 | 1        | 660.00    | 1,100.00           |          | 1,600.00            |  |
|   |                      | Base unit with<br>Lug terminal (L) *2   | -                     | -      |          | -         | -                  |          | -                   |  |
|   |                      | Base unit with<br>Flat terminal (L1) *3 | 688.00                | 672.00 | I        | 708.00    |                    | -        | -                   |  |
|   | Internal             | W/K                                     | *4                    | *4     |          | *4        |                    | 66.00    | 66.00               |  |
|   | accessories          | WD / KD                                 | *4 *4                 |        | *4       |           |                    | 76.00    | 76.00               |  |
|   |                      | W2 / K2                                 | *4                    | *4     |          | *4        |                    | 132.00   | 132.00              |  |
|   |                      | WD2 / KD2                               | *4                    | *4     |          | *4        |                    | 152.00   | 152.00              |  |
|   |                      | F                                       | *4                    | *4     |          | *4        |                    | -        | -                   |  |
|   |                      | R                                       | *4                    | *4     |          | *4        |                    | -        | -                   |  |
|   |                      | A                                       | *4                    | *4     |          | *4        |                    | 30.00    | 30.00               |  |
|   |                      |   |                       |        |          |           |                    |          |                     |  |

Notes: \*1 Base unit (SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CUL) with screw terminal package includes complete circuit breaker, screw terminal, terminal cover for line and load side and mounting hardware. \*1' Base unit (except SA52RCUL, SA53RCUL, SG53RCUL, EA103CUL, EG102CUL, EG103CUL) with screw terminal package includes complete circuit breaker, screw terminal, insulation

barriers and mounting hardware.

base unit (SAS2RCUL, SAS3RCUL, SAS3RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CUL) with flat terminal package includes complete circuit breakers, flat terminals, insulation barriers, terminal cover for line and load side and mounting hardware.
 '3' Base unit (SAS2RCUL, SAS3RCUL, SAS3RCUL, EA102CUL, EA103CUL, EG103CUL) with flat terminal package includes complete circuit breakers, flat terminals, insulation barriers, terminal cover for line and load side and mounting hardware.
 '3' Base unit (except SA52RCUL, SA53RCUL, SA53RCUL, EA103CUL, EA103CUL, EG102CUL, EG103CUL) with flat terminal package includes complete circuit breakers, flat terminals, insulation barriers, terminals, insulation barriers, terminal second side and mounting hardware.

barriers and mounting hardware.

\*4 Internal accessories are available as a field installation accessories. See accessories List Price.

-: Not available. All prices are subject to change without notice.

## Accessories List Price

| Accessories name             | 14/- 1 - ft - 1 -                              | Part number                | List Price  | Applicable Breakers  |
|------------------------------|--|----------------------------|-------------|--|
| Auxiliary Switches           | W: Left side                                   | BZ6WL10CU                  | 60.00       | SA53RCUL, SG53RCUL, EA103CUL, EG102CUL, EG103CUL   |
| (Field Installation)         | W: Right side                                  | BZ6WR10CU                  | 60.00       | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
|                              | WD: Left side                                  | BZ6WDL10CU                 | 70.00       | SA53RCUL, SG53RCUL, EA103CUL, EG102CUL, EG103CUL   |
|                              | WD: Right side                                 | BZ6WDR10CU                 | 70.00       | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
|                              | WA: Left side                                  | BZ6WL10CAU                 | 90.00       | SA53RCUL, SG53RCUL, EA103CUL, EG102CUL, EG103CUL   |
|                              | WA: Right side                                 | BZ6WR10CAU                 | 90.00       | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
|                              | WDA: Left side                                 | BZ6WDL10CAU<br>BZ6WDR10CAU | 100.00      | SA53RCUL, SG53RCUL, EA103CUL, EG102CUL, EG103CUL<br>SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
| Alarm Switches               | WDA: Right side                                |                            | 60.00       | SA53RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CUL   |
| (Field Installation)         | K: Left side<br>K: Right side                  | BZ6KL10CU<br>BZ6KR10CU     | 60.00       | SA53RCUL, SG53RCUL, EA103CUL, EG102CUL, EG103CUL<br>SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
| (Field Installation)         | KD: Left side                                  | BZ6KDL10CU                 | 70.00       | SA53RCUL, SA53RCUL, EA103CUL, EA102CUL, EA103CUL, EA103C |
|                              | KD: Right side                                 | BZ6KDR10CU                 | 70.00       | SA53RC0L, SG53RC0L, EA103C0L, EG102C0L, EG103C0L<br>SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
|                              | KA: Left side                                  | BZ6KL10CAU                 | 90.00       | SA53RCUL, SA53RCUL, EA103CUL, EA102CUL, EA103CUL, EG103CUL   |
|                              | KA: Right side                                 | BZ6KR10CAU                 | 90.00       | SA53ROUL, SA53ROUL, EA103COL, EA103COL, EA103COL, EG102CUL, EG102CUL, EG103CUL   |
|                              | KDA: Left side                                 | BZ6KDL10CAU                | 100.00      | SA53RCUL, SG53RCUL, EA103CUL, EG102CUL, EG103CUL   |
|                              | KDA: Right side                                | BZ6KDR10CAU                | 100.00      | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
| Auxiliary and Alarm Switches |  | BZ6WKL10CU                 | 120.00      | SA53RCUL, SG53RCUL, EA103CUL, EG102CUL, EG103CUL   |
| (Field Installation)         | WK: Right side                                 | BZ6WKR10CU                 | 120.00      | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
| (,                           | WDKD: Left side                                | BZ6WDKDL10CU               | 140.00      | SA53RCUL, SG53RCUL, EA103CUL, EG102CUL, EG103CUL   |
|                              | WDKD: Right side                               | BZ6WDKDR10CU               | 140.00      | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
|                              | WKA: Left side                                 | BZ6WKL10CAU                | 180.00      | SA53RCUL, SG53RCUL, EA103CUL, EG102CUL, EG103CUL   |
|                              | WKA: Right side                                | BZ6WKR10CAU                | 180.00      | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
|                              | WDKDA: Left side                               | BZ6WDKDL10CAU              | 200.00      | SA53RCUL, SG53RCUL, EA103CUL, EG102CUL, EG103CUL   |
|                              | WDKDA: Right side                              | BZ6WDKDR10CAU              | 200.00      | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
| Shunt trip                   | for MCCB                                       | BZ6F#10CU                  | 80.00       | SA52RCUL, SA53RCUL, EA102CUL, EA103CUL   |
| (Field Installation) *1      | for MCCB (with terminal block)                 | BZ6F#10CAU                 | 110.00      | SA52RCUL, SA53RCUL, EA102CUL, EA103CUL   |
| . ,                          | for ELCB                                       | BZ6F#10CAU                 | 90.00       | SG53RCUL, EG102CUL, EG103CUL   |
| Undervoltage trip *1         |  | BZ6R#10CAU                 | 210.00      | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
| Operating handles            | V type   | BZ6V10C                    | 140.00      | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
|                              |  | BZ-V30C-EUL                | 140.00      | SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL   |
|                              |  | BZ-V40C-EUL                | 140.00      | SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL   |
|                              |  | BZ-V60C-EUL                | 200.00      | SA402BUL, SA403BUL, SA402RUL, SA403RUL   |
|                              |  | BZ-V70C-E                  | 200.00      | SA603RUL, SA803RUL   |
|                              |  | BZ-VS1                     | 35.00       | Extension shaft for BZ6V10C / BZ-V30C-EUL / BZ-V40C-EUL  |
|                              |  | BZ-VS2                     | 35.00       | Extension shaft for BZ-V60C-EUL / BZ-V70C-E  |
|                              | N type   | BZ6N10C                    | 110.00      | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
|                              |  | BZ-N30C                    | 110.00      | SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL   |
|                              |  | BZ-N40C                    | 110.00      | SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL   |
|                              |  | BZ-N60C                    | 180.00      | SA402BUL, SA403BUL, SA402RUL, SA403RUL   |
|                              |  | BZ-N70C                    | 180.00      | SA603RUL, SA803RUL   |
|                              |  | BZ-NP-1C                   | 12.00       | BZ6N10C, BZ-N30C, BZ-N40C  |
| <b>T</b> 1 1 0 to            |  | BZ-NP-2                    | 17.00       | BZ-N60C, BZ-N70C   |
| Terminal Covers *2           | 2 pole, short, Black                           | BZ6TS10C2U                 | 9.00        | SA52RCUL, EA102CUL   |
|                              | 3 pole, short, Black                           | BZ6TS10C3U                 | 10.00       | SA53RCUL, SG53RCUL, EA103CUL, EG102CUL, EG103CUL   |
|                              | short for screw terminal                       | BZ-TS30B-3                 | 20.00       | SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL   |
|                              | short for screw terminal                       | BZ-TS40B<br>BZ6TB10C2U     | 20.00       | SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL   |
|                              | 2 pole, long, Black                            |                            | 9.00        | SA52RCUL, EA102CUL, EG102CUL<br>SA53RCUL, SG53RCUL, EA103CUL, EG103CUL   |
|                              | 3 pole, long, Black<br>long for screw terminal | BZ6TB10C3U<br>BZ-TB30B-3   | 10.00 20.00 | SA102BAUL, SA103BAUL, SA102CAUL, SA103COL  |
|                              |  | BZ-TB30B-3<br>BZ-TB40B     | 20.00       | SA102BAOL, SA102BAOL, SA102BAOL, SA102BAOL   |
|                              | long for screw terminal<br>for lug terminal    | BZ-TB30B-3                 | 20.00       | SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL   |
|                              | for lug terminal                               | BZ-TB40B                   | 20.00       | SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL   |
|                              |  | BZ-TB40B<br>BZ-TB60B       | 80.00       | SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL   |
|                              | for flat terminal                              | BZ-TL30B-3                 | 50.00       | SA402B0L, SA403B0L, SA402R0L, SA403R0L<br>SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL   |
|                              | ior nat critinal                               | BZ-TL40B                   | 60.00       | SATUZBAUL, SATUZBAUL, SATUZBAUL, SATUZBAUL<br>SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL   |
|                              |  | BZ-TB60B                   | 80.00       | SA202BA0L, SA203BA0L, SA202RA0L, SA203RA0L   |
|                              |  | BZ-TB70B                   | 90.00       | SA402D0L, SA403D0L, SA402H0L, SA403H0L   |
| Insulation Barriers *3       |  | BZ6B10C                    | 12.00       | SA50510L, SA50510L<br>SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
|                              |  | BZ-B30B                    | 12.00       | SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL   |
|                              |  | BZ-B40B                    | 12.00       | SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL   |
|                              |  | B-43A                      | 15.00       | SA402BUL, SA403BUL, SA402RUL, SA403RUL, SA603RUL, SA803RUL   |
| Terminal Kits *4             | Lug terminal *5                                | BZ-TA100                   | 15.00       | SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL   |
|                              |  | BZ-TA225                   | 48.00       | SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL   |
|                              |  | BZ-TA350                   | 51.00       | SA402BUL, SA403BUL, SA402RUL, SA403RUL (250-350A)  |
|                              |  | BZ-TA400                   | 180.00      | SA402BUL, SA403BUL, SA402RUL, SA403RUL (400A)  |
|                              |  | BZ-TA600                   | 198.00      | SA603RUL   |
|                              |  | BZ-TA700                   | 387.00      | SA803RUL (700A)  |
|                              |  | BZ-TA800                   | 396.00      | SA803RUL (800A)  |
|                              | Flat terminal                                  | BZ-SU20B                   | 24.00       | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
|                              |  | BZ-SU25B                   | 24.00       | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
|                              |  | BZ-SU35B                   | 27.00       | SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL   |
|                              |  | BZ-SU50B                   | 36.00       | SA202BAUL, SA203BAUL, SA202RAUL, SA203RAUL   |
|                              |  | BZ-SU60B                   | 51.00       | SA402BUL, SA403BUL, SA402RUL, SA403RUL   |
|                              |  | BZ-SU70B-600               | 66.00       | SA603RUL   |
|                              |  | BZ-SU70B-800               | 84.00       | SA803RUL   |
| Handle Lock Covers           |  | BZ6L10C                    | 10.00       | SA52RCUL, SA53RCUL, SG53RCUL, EA102CUL, EA103CUL, EG102CUL, EG103CU  |
|                              |  | BZ-L30C                    | 16.00       | SA102BAUL, SA103BAUL, SA102RAUL, SA103RAUL   |
|                              |  |                            |             |  |

Notes: \*1 #: Voltage code, see page 17, 18. \*2 Terminal cover package includes 2pcs covers for line and load side. \*3 Insulation barrier package includes 4pcs barriers for line and load side. \*4 Terminal kit includes 3pcs terminals for line or load side. \*5 BZ-TA600 / TA700 / TA800 includes 3pcs lugs and 1pc terminal cover.

All prices are subject to change without notice.

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#### Prices

All prices are subject to change without notice. In the event of a price change, the effective date of the change will be the date on the new price or discount schedule sheet.

All quotations made or orders accepted after the effective date will be on the new basis.

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Written quotations are valid for 30 days from its date unless otherwise stated in the quotation. Verbal quotations expire the same day they are made.

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The price does not include any taxes. Buyer shall be responsible for the payment of all taxes applicable to.

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#### Packing

Prices include standard domestic packing. Additional special packing costs required for export or Buyer requirements will be charged to Buyer.

#### Weight and Dimensions

The weight and dimensions of products described in this catalog are the best information available at the time of going to press. As Seller follows a policy of continuous product improvement, design changes may make this information obsolete. Information in this catalog is subject to change without notice.

#### Inspection and acceptance of products

Buyer is responsible for evaluating received products for final acceptance. All claims for shortage must be made within thirty (30) days of receipt of products.

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No product shall be returned or canceled unless return/order cancel authorization has been secured from Seller. All returns/cancellations must comply with Seller's then current Return / Cancellation policy.

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Risk of loss or damage to the product shall pass to Buyer at the FOB point.

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